

DECEMBER, 1951

National Safety News



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CHRISTMAS

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COUNCIL ON
PHYSICAL MEDICINE
and REHABILITATION
AMERICAN MEDICAL ASSOCIATION

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As you read this, telephone operators all over the country are dressing thousands of dolls for children's homes and hospitals at Christmas.

Down in Texas, other telephone people are packing gay gift boxes for remote farm families. On December 24, the pilot who patrols Long Distance cables across the lonely plains will drop them by parachute and wave a friendly "Merry Christmas" by wagging the wings of his plane.

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It's a long-time telephone tradition — and a rather natural one. The spirit of service and the spirit of Christmas are pretty close together. And telephone folks try to be good citizens all year 'round.

BELL TELEPHONE SYSTEM



National SAFETY NEWS

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DECEMBER 1951

Vcl. 64, No. 5

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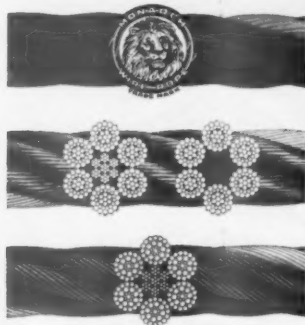
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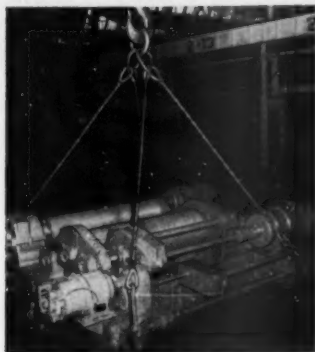
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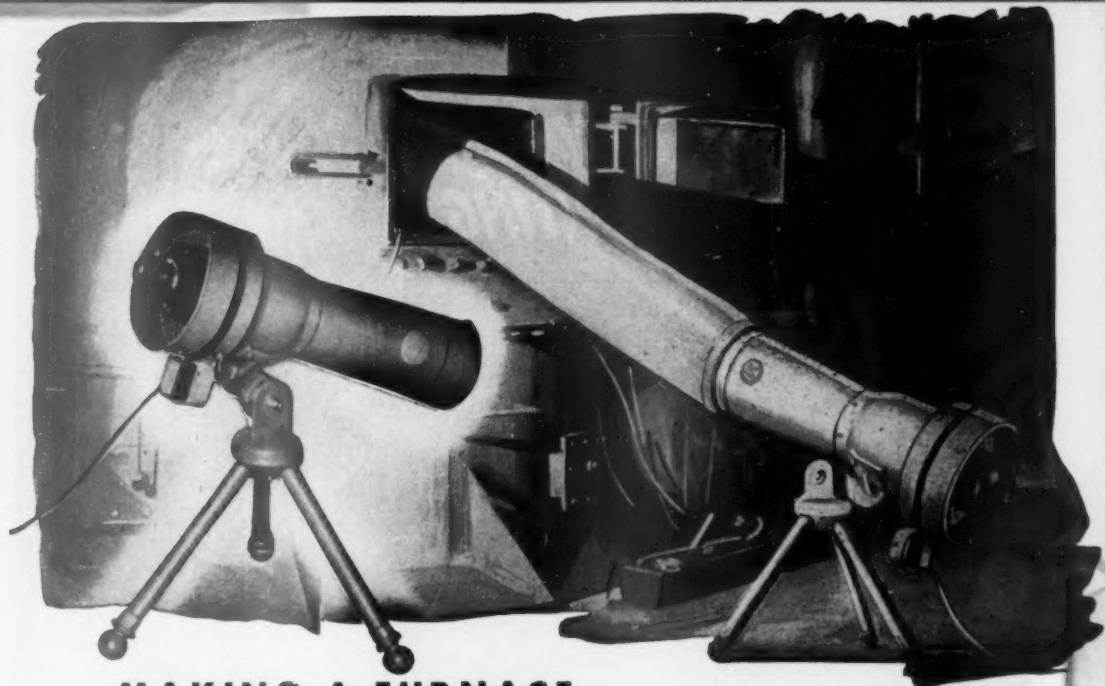
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Provides instant and automatic emergency lighting wherever needed.

Will light areas of thousands of square feet, depending on location.

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Designed for wall or shelf mounting; but can be used as a portable light if required.

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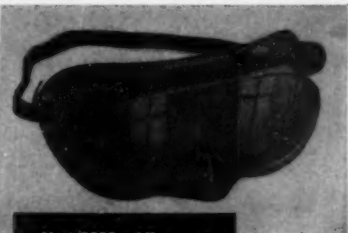
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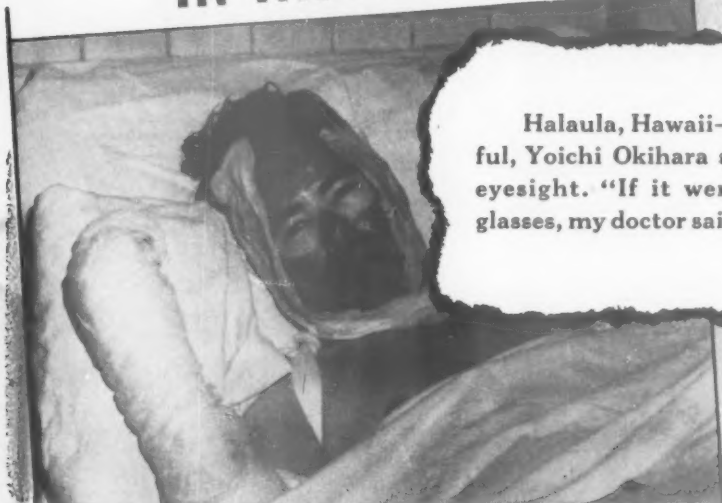
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FOR FLAMMABLE LIQUID . . . GAS AND ELECTRICAL FIRES . . .

ANSUL FIRE EXTINGUISHING EQUIPMENT

DRY CHEMICAL



MODEL 4



MODEL 4-B



MODEL 30-B



MODEL 20-B



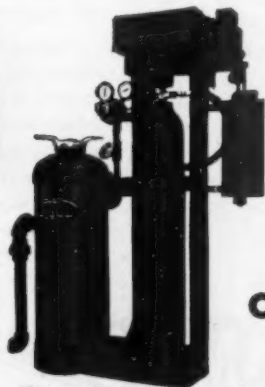
MODEL 150-A



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tools of Ampco Metal.

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Select the right Safety Tool for every job from the more than 400 items that make the Ampco line the world's most complete. Your insurance rates are lower, your workers' efficiency higher because they feel more secure.

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Safer Footing

WITH WAXES CONTAINING ANTI-SLIP LUDOX®

WALKERS GET ADDED ANTI-SLIP SECURITY on waxed floors . . . when waxes are modified with Du Pont "Ludox." That's because hard, tiny particles of "Ludox" colloidal silica surround softer wax particles . . . press into them when stepped upon and help keep the foot from slipping.

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ASK YOUR WAX SUPPLIER about these waxes containing Du Pont "Ludox." Most likely he can help solve your floor-wax problems. E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Dept., Wilmington, Delaware.



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Few skin cleansers have received such wide spontaneous user acceptance — letters asking about PAX-LANO-SALV* HEAVY DUTY come from all parts of the United States, some foreign countries and from all classes of people and industries. The letter reproduced below is typical of those received daily.

Hamburg, N. Y.
August 12, 1951

G. H. Packwood Mfg. Co.,
1545 Tower Grove Avenue
St. Louis 10, Missouri

Dear Sirs:

Have been using your PAX-LANO-SAV HEAVY DUTY Granulated Skin Cleanser for several years and it is beyond a doubt the best hand cleaner I have ever used.

Am a lineman for the Bell Telephone Co. Have just about used up all the PAX-LANO-SAV HEAVY DUTY I have on hand and am anxious to purchase a five or ten pound carton, and inasmuch as I am unable to purchase it at any of the local stores here would appreciate it if you will quote me a price delivered.

Mrs. Richardson does considerable work outside in her garden, and she also wants me to state for her, that she uses PAX-LANO-SAV HEAVY DUTY, and it does a very good cleaning job and leaves her hands nice and soft.

Thank you in advance for your prompt reply.

Yours very truly,

(Signed) C. E. Richardson
179 East Main St.
Hamburg, N. Y.



The Pax trademark symbolizes a deep-rooted tradition of superlative quality maintained through a quarter century of continuous research and development.

The Committee on Cosmetics of the American Medical Association has accepted PAX-LANO-SAV* Heavy Duty Granulated Skin Cleanser for inclusion in its list of accepted products, and the Committee has granted permission to use its official Seal of Acceptance in accordance with the "Decisions of General Interest of the Official Rules."



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Manufacturing Chemists To Industry
Granulated Skin Cleansers, Skin Cleansing Creams,
Degreasers and Detergent Compounds

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The **FOAMITE** **AIRFOAM-GENERATING** **NOZZLE**

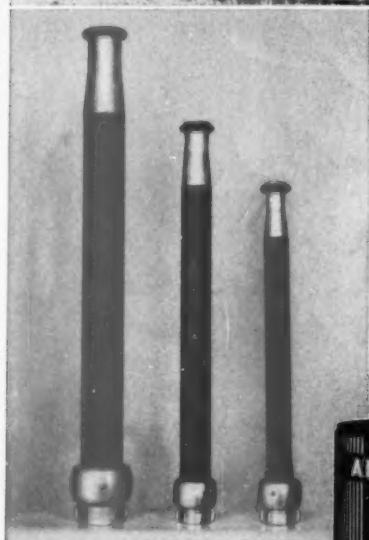
*Can Produce Foamite Airfoam
as Soon as Hose Line
Can Produce Water*

The Foamite Airfoam-Generating Nozzle produces Foamite Airfoam by the scientific mixing of water, air and Foamite Airfoam solution. Light in weight, the nozzle can be moved about easily when fighting a fire.

The Foamite Airfoam it produces blankets fire with a thick, stable insulation which shuts off oxygen and smothers fire quickly and easily—and it stays smothered! It extinguishes fire in both ordinary free-burning materials (Class A fires) and combustible materials (Class B fires). It floats on the surface of burning liquids, quickly surrounds obstructions, and clings to solids. It prevents reflash.

Foamite Airfoam Liquid operates with fresh or salt water; with hot or cold water; will not ferment or mold; is not susceptible to decomposition from bacteria; is noncorrosive; available in 3% or 6% solution.

The Foamite Airfoam-Generating Nozzle is furnished in three capacities, model 300, 600 and 1200, producing at 100 psi operating pressure, approximately 300, 600 and 1200 gallons of Foamite Airfoam respectively. Write for literature.



Model 1200, Model 600, Model 300.



*Best Security
of Firefighting in
FIRE PROTECTION*

AMERICAN-LAFRANCE-FOAMITE
ELMIRA, NEW YORK, U.S.A. *Corporation*



WISE WORKERS WANT- SAFETY SHOES



Give your workers ...

HY-TEST SAFETY SHOES

THE WORLD'S LARGEST SELLING SAFETY SHOE
HY-TEST DIV. INTERNATIONAL TRUSS COMPANY SAINT LOUIS 2, MISSOURI
NEW YORK OFFICE: 1001 5TH AVE. 10TH FL. • EASTMAN SQUARE BUILDING, N. Y.



NATIONAL SAFETY NEWS

DECEMBER 1951

from the desk of
NED H. DEARBORN

traffic toll to date
995,600
NOV 15 1951

Estimated date of
1,000,000th death
third week of December
But it's not too late
to postpone it!
NHD



SAFEGUARDING RESEARCH

Main building of General Electric Research Laboratory near Schenectady, N. Y.

By HOWARD H. FAWCETT

Accident prevention, occupational hygiene and fire prevention aid research work in four ways

RESearch, the source of scientific knowledge, is primarily a point of view. It begins in an inquiring mind not satisfied with things as they are, engages in experiments or calculations, and thus adds another bit to the world's knowledge.

It is true that occasionally research in a particular direction may slow or even momentarily stop while some practical use is made of the development, but it is almost certain that someone will

eventually take up the work, give it a new approach, and shortly thereafter a new concept will be born.

Often people point with pride to the "products of research." Actually, the development laboratories and production lines make

the "products." Research has repeatedly guided development engineers to a particular intermediate goal, then research has gone back to uncharted seas, even before the products reach the user.

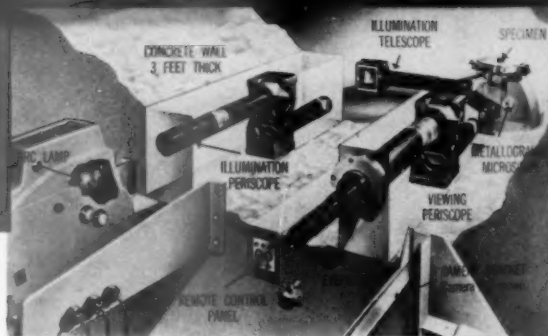
Pause for a second to consider what we owe to research, just within our own lifetime. Since 1900, when Dr. W. R. Whitney, who, incidentally, is still active, established the first industrial research laboratory for the General Electric Company in Schenectady, the world has literally been remade.

For example, Thomas Edison had invented the first successful lamp in 1879. In the next 21 years (down to 1900) the life of a lamp had been brought to 600 hours, and efficiency was doubled. Edison is reported to have said in 1900 that the incandescent lamp was then perfected, so it was unlikely that it would ever be materially improved. Within 15 years, the Research Laboratory nearly doubled the life and quadrupled the efficiency of lamps. Later work at

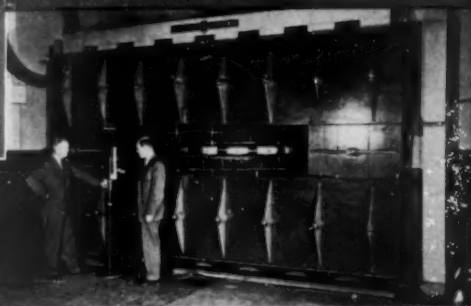
Handling corrosive substances requires dependable personal protection.



HOWARD H. FAWCETT is Safety Supervisor, Research Laboratory, General Electric Company, Schenectady, N. Y. This article was presented before the Eastern Ohio Chapter, American Society of Safety Engineers, Cleveland, January 22, 1951.



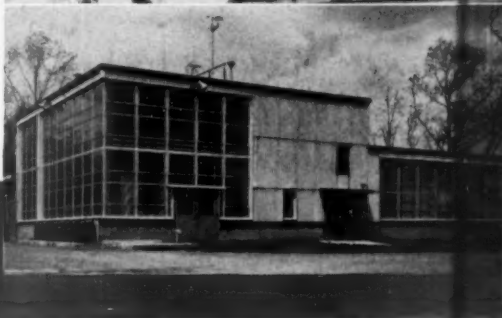
The extreme temperatures in separate personnel and hardware is maintained by this prototype optical system for transmitting radiative materials.



Tools of research may be huge as in this 100 Mev betatron for nuclear research.



High temperatures require special precautions and protective equipment.



Separate building for work involving extremely low temperatures.

Schenectady and Nela Park has given us lamps of all types, shapes, sizes and colors for a thousand applications.

The Wright Brothers made their first flight after 1900. Radio research and development has virtually eliminated space, while television now has erased another barrier, with its ability to transmit pictures as well as sound. Automobiles, diesel locomotives, talking pictures—the list is almost endless—all these have been born or fundamentally changed by research since 1900.

The above examples of the results of research are offered as a prelude to the topic—*Accident Prevention in Research*. Before we carry accident prevention into research, however, let us briefly mention the characteristics of research which must form the basis for an intelligent approach.

First, the basic characteristic is freedom—both of thought and of action. If either is seriously restricted, research slows or stops. Hence, arbitrary rules and regulations, no matter how important, must be kept at an absolute minimum.

Second, the major interest is in the "unknown," the untried paths, the unproven or the unexplored. Guideposts, warning signs, and guardrails must be developed as the road progresses. To use a nautical analogy, there are no charts of soundings to aid in steering away from shoals or rocks—these are made on the maiden voyage.

Third, the work is highly varied. An experiment using one set of complicated apparatus today may require an entirely new and even

more complex system tomorrow. Little or no standardization is possible; almost everything is either custom built or an adaptation of relatively uncommon equipment.

Fourth, repetition is the unusual, rather than the usual. If a given experiment has produced a given result, there is little point repeating it without trying some changed condition or new material.

Fifth, research does not follow any particular direction. "Leads"

develop, and these are followed until more promising leads are picked up. Then, the path may turn abruptly into a forest, until a new trail can be blazed. There is no predicting the course of things to come. As Dr. C. G. Suits, director of the General Electric Research Laboratory, recently said, "The only thing we are sure of is that we don't know what we will be doing next week, or next month." The elusive idea, ever

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New Thoughts on Artificial Respiration

By F. A. VAN ATTA, Ph. D.

DR. Peter Karpovitch, who has spent a good deal of time in finding out, says that there have been proposals for well over 1,000 different methods of artificial respiration over the years. Most of us in this country have some familiarity with the Schaefer prone-pressure method which has been taught by all of our large teaching organizations since early in this century and we are a little surprised to hear that there are other methods which are seriously proposed in competition with it. However, some of these other methods have been in use in modern times in European countries and in the last few years some of our own research institutions have been experimenting with several of them.

The recent research on artificial DR. F. A. VAN ATTA is Industrial Hygienist, Industrial Department, National Safety Council.

Research on resuscitation presents new data on comparative efficiency of various methods

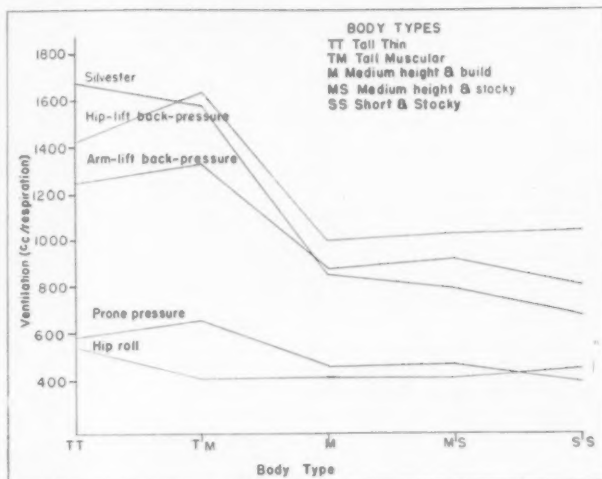


Figure 1. Effectiveness of various methods of manual artificial respiration.

BACK-PRESSURE ARM-LIFT METHOD OF RESUSCITATION



Figure 2. Back-pressure arm-lift method—expiratory position with operator on one knee.



Figure 3. Back-pressure arm-lift method—alternate expiratory position with operator on both knees.



Figure 4. Back-pressure arm-lift method—inspiratory position. Note that arm-lift is gentle and that it is equally effective whether or not the hands are placed under the head.



Figure 5. Back-pressure arm-lift method—inspiratory position with operator on both knees.

BACK-PRESSURE HIP-LIFT METHOD OF RESUSCITATION



Figure 6. Back-pressure hip-lift method—pressure position.



Figure 7. Back-pressure hip-lift method—lifting position. Note that lifting in this position permits contents of abdomen to drop away from diaphragm. Lifting at waist will have opposite effect and there will be no respiration.



Figure 8. Back-pressure hip-lift method with towel to help with lift.

respiration was started at the instance of the armed forces who foresaw the possibility of having to attempt resuscitation of casualties with paralysis of the muscles concerned with breathing and wanted to be certain that the methods recommended for the purpose not only were the best available but also were capable of doing the necessary job. Drs. Comroe and Dripps replied to this request for information by trying out the Schaefer method upon

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SYLVESTER METHOD OF RESUSCITATION



Figure 9. Sylvester method of artificial respiration, expiratory position.



Figure 10. Sylvester method—modified inspiratory position which is slightly more effective than the original.

some patients who were in this type of paralysis.

They found that in this deep paralysis the Schaefer prone pressure method produced almost no respiration. The pressure on the chest collapsed it and forced the air out as it was supposed to but that was where the process stopped. At the release of the pressure the elasticity of the muscles around the chest is supposed to bring it rapidly back to its original state and permit air to flow in. On these patients it did not happen. There was so little tone left in their muscles that they rebounded little, if at all, and there was no inhalation.

This led to the curious conclusion that this method of artificial respiration was very good on the normal individual who was in no need of help but that the greater the need of the individual became the less effective became the method of resuscitation. It also led to the conclusion that if aid was to be given in these extreme cases it was necessary to assist the inhalation as well as the exhalation.

These results were not due to a peculiarity in the method of application of the method because while Dr. Comroe and his group were getting such results in Philadelphia Dr. Whittenberger and his group

were working with other patients in Boston and coming out with the same answer. They might be the result of the condition of the individuals upon whom the methods were being tried since they were all people sufficiently ill that their breathing had stopped.

In order to test this possibility a group working with Dr. Gordon in Chicago decided to try it on a group who were normal except that their breathing had been suspended artificially. They tried out the method on healthy young men who were in anesthesia so deep that they were not breathing and found that they also got very little respiration by the Schaefer maneuvers. Certainly they did not get enough respiration to sustain life.

In addition to the measurements of respiratory volume they were carrying on measurements of the oxygen saturation of the blood, which showed that the little air which was being introduced into the lungs by these maneuvers was considerably less effective than it should have been in getting oxygen into the blood where it could do the individual some good.

All of this is a little disconcerting to those of us who have learned nothing but the Schaefer method for years but it should not be taken as an immediate indica-

tion that the Schaefer method is no good at all. There is the practical fact that there have been a large number of successful resuscitations over the years with the Schaefer method and there probably will be many more before it is finally and completely lost into the limbo to which we have consigned the flagellation method of the Middle Ages. It does mean that the Schaefer method is not as effective as it should be to be really efficient, and that it should be replaced as rapidly as possible.

The same groups who were studying the Schaefer method were, at the same time and on the same individuals, trying out the effects of various other maneuvers. Figure 1, adapted from *Manual of Artificial Respiration, Comparison of Effectiveness of Various Methods on Apneic Normal Adults*, by Archer S. Gordon et al., *Journal of the American Medical Association* 144:1447-1452 (Dec. 23, 1950), shows the relative effectiveness of several of these methods. It is apparent at once that they fall into two distinct groups depending upon whether the inspiration and expiration are both assisted or whether only one is helped. All of the push and pull methods are much more effective than any of the push only or pull

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Know Your Men!

By WILLIAM W. WAITE

Tactful study of the individual, his background and attitudes, brings rewards in better human relationships and safer, more productive workers

UNLESS ONE is thoroughly acquainted with his subordinates—their backgrounds, home lives, financial difficulties and other problems which affect their ability to concentrate on the job—it is virtually impossible to recognize attitudes that may result in accidental injuries.

Asking a foreman to become a psychologist may seem like adding one more burden to his already exacting duties, yet so many accidents stem from psychological causes that today's supervision can hardly afford to ignore this aspect of the safety program. The industrial psychiatrist and his psychological colleagues are, of course, the people who are qualified to handle scientifically the problems of maladjustment. There are so few of them, however, that their time must be allocated to the more serious cases. It therefore falls to the lot of the line supervisor to handle the less serious cases, recommending the others to the attention of specialists.

A review of literature on the subject brings to light some significant facts. One study showed that factors leading to accidents could be classified in four categories:

1. A general revolt against "standardization."

WILLIAM W. WAITE is Associate Professor of Industrial Engineering, Columbia University. This article has been adapted from a paper presented at the 21st Annual Convention of the Greater New York Safety Council.

2. Physical causes.
3. Permanent psychological causes.
4. Unexpected psychological causes.

Another study of a large group of motor-vehicle operators of all types, from bus drivers to casual motorists, indicated that the accident-prone group is characterized by extreme aggressiveness, resentment of authority, and generally poor social adjustment.

The low-accident group is characterized by stability, seriousness rather than impulsiveness, and generally good adjustment to the social situation. While these studies were carried out under scientifically controlled conditions by experts, they indicate certain channels into which foremen may direct their efforts.

Trouble Makers

Only through knowledge of people can we identify the over-aggressive members of the group, the ones who resent authority, and the ones whose minds are disturbed by financial and home problems. When a new worker is assigned to the group, the foreman should make every effort to find out as soon as possible the individual's home situation, habits, past accident record, ability to get along with people, dexterity and job knowledge, ability to concentrate in the midst of distractions, and ability to apply instruction.

Gathering this information is not to be considered as unwarranted prying into the individual's affairs. It is an essential part of the foreman's job. Without it he cannot be in a position to assign the individual to work he can per-

form satisfactorily and safely. Nor can he make even a tentative diagnosis of accident proneness. If those prone to accident can be identified before they do too much harm, and if older workers whose concentration on safety is beginning to weaken can be put back on the right track, we shall see a substantial reduction in injuries.

Emotionally people are not static creatures. The well-adjusted worker of today, who is alert of mind and who concentrates on his job, by tomorrow or next week may have developed a psychological disturbance as the result of influences wholly unrelated to the job. Unless the foreman knows these people thoroughly, the foreman will not be in a position to detect such changes.

The man who generally pays strict attention to his job and turns out work quickly and accurately but suddenly begins to "woolgather" or produce an excessive amount of defective work may be heading for injury through inattention. The man who generally has a cheerful greeting for the boss and fellow workers but comes to work one day in a bad humor, doesn't do so without cause. It is worthwhile to try tactfully to find the trouble. Symptoms are indicators by which an alert foreman can detect potential trouble.

We had a case about fifteen years ago of a man whose actions followed this pattern. The foreman visited the switchroom where the man worked and, without direct reference to the morning grouch, found that he was suf-

fering from a severe toothache. He could not pay the \$50 needed for dental treatment and an inlay.

Further conversation confirmed the foreman's suspicion that the man was over his head in debt. Time payments were taking a large proportion of his weekly paycheck which was smaller than usual because of short working time. He had tried to get a loan for dental work but had been refused because of an outstanding loan. The foreman suggested offering the dentist \$1 weekly for a year. The offer was accepted. The tooth was repaired, the pain stopped, the man's disposition and job concentration improved, and the dental bill paid, fortunately with the aid of an increase in working time that came soon.

No Conclusive Evidence

There is no conclusive evidence that this man would have had an accident if the foreman had not interested himself in the case. But a serious injury was possible as the employee was working on current-carrying equipment and had to be alert to avoid accidental contact. The difficulty with a great deal of accident control work is that we never know with certainty what accidents we have prevented. But this man's efficiency was improved, and loss of efficiency and lack of attention to the job are notorious accident breeders.

Foremen are among the few management people who are in a position to understand the degree to which an individual can be upset emotionally by a casual remark on the job or by some unpleasant event in his home life. In one group for which I was responsible we had a woman employee whose mother had died after a painful and lingering illness, which affected the girl deeply. She had lost a great deal of sleep worrying about her mother and wondering if the disease might be hereditary. When her mother died the girl became quite morose and withdrew from close association with her friends

on the job. She ate lunch alone, stayed at her machine during rest periods, and became more and more wrapped up in her own thoughts.

The foreman reported that she was daydreaming at work and recommended that she be taken out of his group, where machine operations called for constant care. The recommendation was approved but before the transfer could be made she resigned to keep house for her father and brother. Several days later she crossed a street intersection against a red light directly into the path of a car. She spent more than a month in the hospital. The foreman's fears were well grounded.

In still another case a man operating a punch press was inclined to watch visitors. The machine was equipped with a possum guard but the employee seemed to get his hands away from the point of operation each time before the guard cable tightened. However, he certainly did not concentrate on his work whenever a stranger was in the vicinity. Sometimes he turned his body so far in his efforts to see that he could load the die only with difficulty and by touch rather than by sight. The foreman kept an eye on the situation and when he found one day that the man had removed the straps of the guard from his wrist, he transferred the man to a bench assembly job

where there were fewer opportunities for injury.

A driver in the motorized messenger service in a concern with scattered offices had a minor accident. He failed to stop quickly enough at a traffic light and locked bumpers with the car ahead. The damage was negligible, but the employee was conscientious enough to report it. The supervisor learned that the employee's wife had returned from the hospital with a new baby the day before. He had taken over the 2:00 a.m. feeding, and in his anxiety to time it correctly had been awake most of the night. By afternoon he was so drowsy it was surprising he had not had a more serious accident with the truck. The supervisor transferred him to a mail sorting job until the home situation was normal once more.

Watch for Symptoms

There are other ways in which the foreman may be able to prevent accidents by identifying accident-breeding attitudes. For one thing, he should ascertain which members of his group have been involved in accidents and the circumstances in each case. He should also be on the watch for non-injury accident cases, however minor. An example is excessive breakage of small tools, such as drill points. Such repeated occurrences, while not serious in themselves, are often the key to attitudes which may result in serious accidents.

There is seldom a single cause, or even a small group of causes, which account for the accidents in the shop, but the foreman can frequently observe a pattern in little unexpected occurrences in the work of an individual which will show that he is not up to normal efficiency. Proper analysis and interpretation of these minor accidents and near-accidents may enable the supervisor to prevent a major injury through transfer, additional training, or counseling. If he is not able to do these things

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TO SPOT

Accident-creating accidents Know your subordinates':

- ... Backgrounds
- ... Home lives
- ... Financial problems
- ... Other problems which affect their ability to concentrate on their jobs.

MONTH AFTER MONTH

A new stunt each month keeps this safety program clicking. Maybe you can use some of them . . .

STUNTS can't take the place of training, supervision and engineering but they do keep employees interested in the program and put across many a lesson.

This year the South Wind Division of Stewart-Warner Corporation in Indianapolis has been setting aside one day each month as "Safety Day," with the following programs arranged for the first nine months:

January. A contest was held among employees for a slogan which could be used on the safety bulletin boards and at the top of the plant paper, *The South Wind Reporter*. The winning slogan was:

*Back the man behind the gun;
Safety wins in '51.*

Appropriate picture posters of the slogan were displayed throughout the plant and offices. The winner received a table model radio.

February. To impress upon employees the importance of guarding their eyes, black paper eye patches were issued. Employees wearing their eye patches at stated intervals in the lunch line received free lunches.

March. A good housekeeping drive was held. In addition to the regular plaques awarded factory and office departments showing the greatest improvement each month, the staff artist drew a Disney character which was named "Humphrey S-W's Messy Pig." An appropriate verse was attached and two life-size images of Humphrey were framed. Now de-



Above: The winner in the "Hello test" receives two tickets to the Indianapolis 500 mile race. In the background is a poster carrying the slogan for 1951.

Right: "Humphrey, the Messy Pig," was an incentive to better housekeeping. No department wanted to provide parking space for Humphrey.

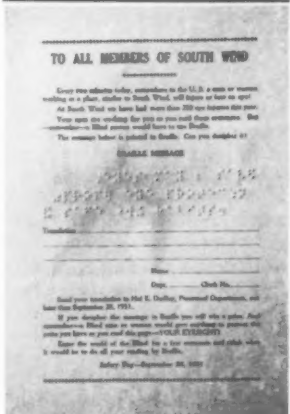
Lower right: How would you like to do all your reading in Bra'le? It reminded employees of the value of eyeight.

partments having the lowest scores in the housekeeping inspections have to hang Humphrey in the department for 30 days.

April. This month featured a "Hello Test." Home telephone numbers of several employees were selected. After all employees had been notified of the plan, these numbers were called. A member of a South Winder's family who gave the slogan correctly received tickets to the famous Indianapolis 500 Mile Race.

May. Copies of a booklet, *Please Get Home Safely*, were given to all employees to remind them of the importance of driving safely to and from work.

June. Two large pasteboard boxes were painted black and decorated with movie posters of "The Thing." ("The Thing" inspired quite a few safety stunts while the



vogue lasted.) In each box was an Accident Hazard. One was for the office — an open file drawer; and one for the factory—a spot of grease. A hole was made in each box, a parody of the song was written, and employees were asked to guess the identity of "The Thing." There were six winners and each received two tickets to the local "Starlight Musicals."

July. Children of employees in the 6 to 16 age group were invited to complete in 50 words or less the sentence, "I want my father (or mother) to work safely at South Wind because . . ." Two letters were selected by an employee judging committee and the young winners were brought to the plant to have lunch with their parents and the company executives, taken on a tour of the plant and offices, and each presented with a pair of roller skates.

August. A local garage lent the company two badly wrecked cars. These were decorated with signs, "Don't make a human wreck out of yourself," and exhibited at the plant entrances.

September. A blue sheet with a message in Braille was distributed through the plant as an impressive reminder of the value of eye protection. Prizes were offered to those who could decipher the Braille message.



Top to bottom:

Winners in a letter contest for employees' children. The subject was "I want my father to work safely because . . ." Prizes were lunch, a trip through the plant, and a pair of roller skates.

What was "The Thing?" Six employees who guessed its identity received two tickets each to a show.

A table model radio was the prize that brought in the entries in the contest for a 1951 safety slogan.

Employees were issued black paper eye patches and those wearing them in the lunch line at stated intervals got a free meal.

A booklet, "Please Get Home Safely," carried reminders on safe driving.



Please Get Home Safely



South Wind's Safety Skits

STEWART-WARNER CORP.
1114 Grove Street, Indianapolis, Indiana

(Division of National Geographic)





Courtesy Factory Stores

Food Fights Fatigue

By RHETA HYATT

Progressive in-plant feeding plans, plus nutrition education, help offset a serious accident source

THERE is still need for controlled studies to throw light on the influence of diets and of various food factors on health and work output. A few such studies were carried out during the war. Direct and circumstantial evidence so far assembled points clearly to a positive relationship of adequate diets to workers' health efficiency, but the question clearly calls for further investigation.

The following is a Canadian ex-

ample of outstanding results from a lunch room. Three years after the opening of a lunch room the following summary was made by the plant nurse, and provided to the Division of Nutrition. While other factors may have been involved in this result, the lunch room was the only major change in operations.

The results before and after opening a lunch room, per 1,000,000 man-hours worked, were as follows:

	Before opening lunch room (3-year average)	After; (3-year average)	% Reduction
First-aid treatments	3,000	2,130	27
Disabling Injuries	49	42	14

RHETA HYATT is Health Educator, Department of Health, City of Cambridge, Mass. This article has been condensed slightly from a paper presented at the 30th Annual Massachusetts Safety Conference.

The approach to the problem is two-fold: (1) employee education; and (2) in-plant feeding schemes. The latter gives the more immediate and possibly more effective results, but the former should not be neglected. It must be remembered that about 50 per cent of the employees are carrying lunches and about 30 per cent go home; therefore no in-plant feeding scheme reaches its full effectiveness unless the nutrition education that goes hand-in-hand with it is carried back into the home.

You May Not Feel It

From an analysis of more than 1,000 consecutive accidents observed at one ordnance depot, it was evident that the greatest number of accidents occurred in the last hour before lunch—between 11 and 12 o'clock; as an important contributive factor the author cites the skipping and skimping of breakfast, so that six hours elapsed between the beginning of the working day and the eating of a nutritious meal. Under these conditions, hunger was bound to ensue, engendering physiologic as well as psychologic changes. Thus, nervousness, headache, and even dizziness are stated to occur, judgment to become impaired, and acuity to be lessened through untimely fatigue.

Significantly, hunger is not necessarily felt as such, but even in those who did not consciously experience the sensation of hunger, a progressive rise in the accident rate with each hour of the morning was evident. A second rise of the rate of accidents took place after 2:00 p.m., reaching a peak (slightly lower than the morning peak) between 5:00 p.m. and 6:00 p.m., one hour before the end of the work shift.

Experiments have shown that an individual's efficiency increases

after the taking of food and that when the interval between meals is too long the amount of work accomplished declines sharply and accidents occur.

Probably one of the best ways to a worker's heart is through his stomach, said the New York Department of Labor. A number of companies recognized this long before the war, and more have discovered this in their fight against absenteeism, turnover, and fatigue. Morale, accidents, and labor turnover are not unique problems of war. They are problems in peacetime. Every employer likes to keep his skilled workmen on the job and satisfied. Good meals, and sometimes snacks in between, have proved important in cutting down absenteeism, labor turnover, and in reducing accidents.

The answer, in the words of A. M. MacFarlane, recognized authority on the subject, is that experiments have shown that upon the food of the worker, depends the rate of production.

This is management's job and it has been proved that action now will pay dividends far more than commensurate with the investment and time involved.

Miraculous Vitamins

Dr. Norman Jolliffe, of the National Research Council, says: "It has now been proved that an adequate supply of vitamins will prevent such symptoms as moodiness, sluggishness, fear, mental and physical fatigue, as well as the ordinary deficiency diseases such as rickets, scurvy, beri-beri, pellagra, and partial blindness, occurring during blackouts. These states of mind and ailments are to be avoided at all costs in a population facing total war and invasion, when the maintenance of stamina, determination, hope and courage may mean the difference between defeat and victory."

An interested and well informed industrial nurse can play a very important part in a nutrition education program for the employees.

It Isn't Easy Without Sight



To PROVIDE a striking demonstration of a person's dependence on eyesight in the daily routine of activities, members of the workmen's safety and hygiene committee at Hamilton Foundry and Machine Company, Hamilton, Ohio, were blindfolded at a recent meeting. In the above illustration the members are trying to light

cigarettes. At the left is Eldon Altman, personnel and safety director.

Each member wears a special badge at work and is constantly on the lookout for conditions and work practices that need correction. Members are replaced after serving for 12 meetings. The plant recently completed 533 safe days.

The Council of Industrial Health is of the opinion that medical supervision to the extent of (a) guiding management in furnishing suitable in-plant feeding facilities and dietaries, and (b) counselling with the workers in the prevention of nutritional deficiency states is a function of industrial health.

In this heterogeneous assembly of industrial establishments, the industrial nurse is in a unique position. Working in the plant either on a full-time or part-time basis, under medical supervision, her primary concern is the health and welfare of the worker. Once she is made aware of her opportunities and responsibility for the industrial nutrition program in her plant, she can be most useful in impressing management with its practical importance, and in initiating or following through on a nutrition education program in the plant. The very fact that such a nurse is in the plant every day and has many individual contacts with workers in the plant medical

office makes her an invaluable person there. In plants where specific problems arise requiring the services of a nutritionist, she calls the company nutritionist or she may use community resources for consultation.

The one thing which every industry can do whether it be large or small, is to provide some kind of nutrition education. Industries have an excellent opportunity to disseminate information about human nutrition. Admittedly, the effects of an educational program are difficult to evaluate. However, it has been shown that a well conceived and well run in-plant nutrition education program, correlated with a progressive in-plant feeding program, can be very effective in changing eating habits.

Application of the newer knowledge of nutrition promises a healthier and a longer life with so much physical and mental vigor and alertness that even an optimist would have thought the promise a dream fifteen years ago.



Park beside Pana Refinery office where visitors gathered before and after tour.

PROGRESSIVE HAZARD HUNT

What trade associations can do in promoting safety for an industry is proved by oil men from 3 states

WHAT'S more fun than a progressive week-end house-party—with games and scavenger hunts, contests, refreshments 'n' everything?

Members of the Tri-State Fire and Accident Prevention Group of the National Petroleum Association have found the answer in a more fruitful game — their bi-monthly hazard hunt—with a different host refinery as the "victim" each time.

Petroleum companies long ago learned the value of the cooperative approach in developing and propagating accident prevention knowledge, through years of affiliation with the National Safety Council and its sectional activities. But member companies in this Tri-State group have realized further gains in the safety field by sending their safety directors, engineers

By NORVAL BURCH

and foremen on these joint inspection tours.

Trade associations have found that cooperation in accident prevention helps to focus safety principles on the specific problems of a particular industry, and the men from member companies who participate in these tours come home with fresh applications to their own specific safety needs.

An example of this was the fall

meeting of the Tri-State group on September 26, when the Pana Refining Company, at Pana, Ill., was host to nearly 50 visitors from most of the other major refining companies in Illinois and Indiana. Kentucky, the third state in the group, was not represented this time.

Though some critics have complained that safety meetings tend to become routine and humdrum, the alertness and enthusiasm of this group was refreshing. W. W. Whitlock, director of safety for the Illinois Farm Supply Refining Company, which owns Pana Refining Company, would be willing to bet these eagle-eyed snoopers didn't miss a trick at Pana, where they combed every shop and storeroom and peeked into every furnace and every retort that wasn't under pressure. They even climbed towers to reach accessible peep-holes.

All this snooping and criticizing was welcomed by the gracious

Photos by the author.

Arrangement of parts and housekeeping in stockrooms came in for critical comment from the inspection party.





Visiting safety men poked into every corner of the refinery plant, pausing (at left) to discuss housekeeping around one of the towers, and stopping (right) to inspect a hand-drawn foam-generating fire fighting cart.

hosts. When the visitors assembled early in the day in a park beside the main office building, they were greeted by J. G. Dorward, general manager, who pointed out that a few red faces were to be expected among the refinery staff, since management had elected to receive the inspection party on a routine day, without special fixing up.

He recounted the progress made since the Illinois Farm Supply Company bought the plant and started renovating it, enumerating some of the outstanding improvements. He admitted that many items in the proposed reconstruction had not yet been reached.

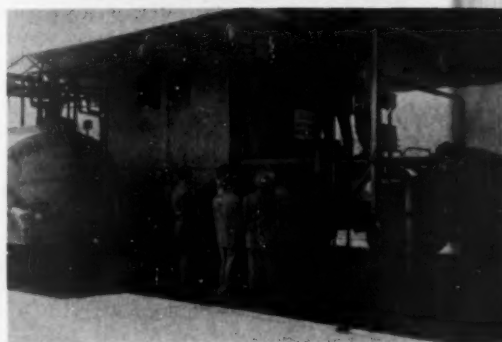
Although menacing clouds threatened a downpour, the visiting safety men grabbed raincoats and formed into small groups headed by members of the Pana staff, including Walter Monti, chief chemist, Bert Beeson, Harry Sexton, Henry Trelz, T. J. Ladet and J. M. Anderson. The sun came out as the plant tour was

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First group to complete the tour waits at main entrance for others in inspection party, lighting first cigarettes after leaving "no-smoking" area.



Loading dock, where pipelines empty refinery's finished product into tank wagons that serve surrounding area, getting the once-over.



Nearly everybody takes part in discussions at afternoon meeting in Pana Country Club. Here Carroll Hudson, of The Texas Company refinery at Lockport, Ill., tells of the old days "when a hot rivet was thrown into the end of a tank car to test for gas-free atmosphere."



The Weak Spot In the Program

By JAMES R. SHEA, SR.

The men had the equipment, but many didn't know how to use it. Training changed that

WHEN THE 1944 fiscal year ended, Tyrone, Pa., Mill of West Virginia Pulp and Paper Company had accumulated the worst 12-month accident record in the mill's history—89 disabling injuries and a frequency rate of 63.39.

That record started the operating management on a complete reorganization of the safety program. Six years later disabling

JAMES R. SHEA, SR., is manager of the Tyrone, Pa., Mill, West Virginia Pulp and Paper Company.

injuries in one year had been reduced to three, while the frequency rate had dropped to 1.33. From 1946 through 1949, Tyrone Mill won all company awards for safety progress. In the 1950 Pulp and Paper Contest of the National Safety Council Tyrone won a certificate of achievement for having an accident frequency rate below the group average and establishing a frequency rate lower than that of the previous year's contest. A disabling injury in July this year terminated an eight-month safety record.

The reason for the bad record



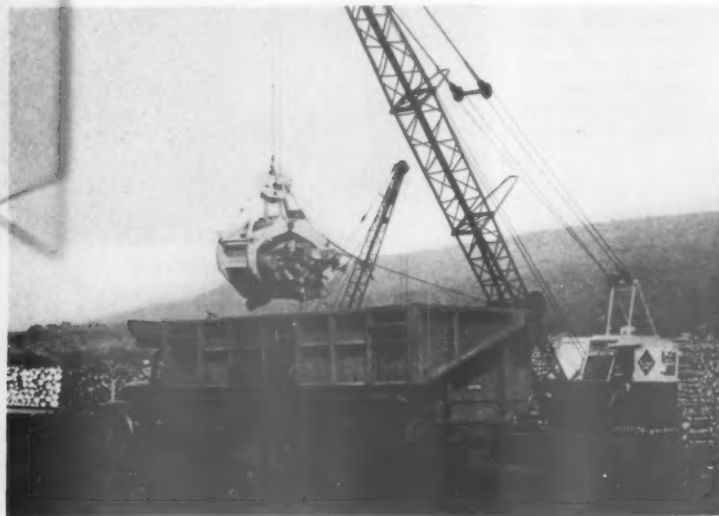
James R. Shea, Sr.

of 1944 wasn't obvious. For many years management had been emphasizing maintenance of safe conditions in the mill. Personal protective equipment was provided for all operations where it was needed. Machines were equipped with approved safeguards. Adequate lighting was provided. It was company policy to watch for hazardous procedures and methods and to correct them promptly.

Analysis of the situation, however, disclosed a serious defect in

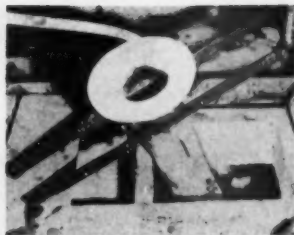
LEFT: Logs being moved from storage pile by crane with special grab. Logs are deposited in side-dump truck.

Many types of respirators and gas masks are used for protection against dusts, vapors, smoke and gases.





A "laundry" is maintained for cleaning respirators. Through an identification system workers have their own respirators cleaned and sterilized and returned to them daily.



Workers are not allowed to enter enclosed areas such as tanks, bins or manholes until the air has been cleared of dust, smoke, or gas. This MSA air mover is ventilating a chalk circulating tank.



Before "hot" work, such as welding, can be started in certain areas, supervisors test atmospheres for explosive gases with an Explosimeter. Among places constantly checked are black ash leachers and digester in the pulp mill.

the program. There had been a lack of proper education. Little had been done in training employees to work safely.

To correct this situation a part-time safety director was appointed. At the same time a mill safety committee was organized. The plant was divided into 32 safety groups and an intensive educational program was started. This was directed first to members of the safety committee. Emphasis was placed on accident control and safety leadership. Supervisors were then brought into the program. Finally, it was carried to

the individual employee. Instructions for the use of safety equipment were drawn up and the revitalized program was launched in May, 1945.

During the first seven months of the company's fiscal year (which runs November 1 through October 31) 60 disabling injuries were recorded. The value of the new program was demonstrated during the remaining five months when the number of injuries was held to 16.

Under direction of the new safety committee, whose members serve on a permanent rather than a rotating basis, every employee at Tyrone Mill was trained in the use of protective equipment. Much of this equipment had been avail-

able previously but many employees did not know how to use it.

At the beginning of this year safety equipment provided by the company included instruments for the detection of toxic and explosive gases; various types of goggles, both plano and prescription; rubber gloves for handling acids; sandblast helmets; metal foot guards; safety belts; protective creams; industrial gas masks and various types of supplied air

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Logs being lifted from truck by sling from crawler crane. Note guide rope on sling. Worker slides sling ropes between truck blocking and steps out of way when lift is made.



Logs are dumped from truck into chute leading to cleaning, debarking and other processing machinery. No manual handling; workers remain safe distance from logs.



Sneaking Intruder

By CLIFFORD H. KALB, M.D.

**Keeping occupational dermatoses out of the plant
calls for teamwork in engineering and medical control**

FORESIGHT, like many another virtue, comes harder for some than for others. But those in top management who no longer need to be sold on the idea of establishing a safety-hygiene teamwork approach dedicated to "the over-all success of the manufacturing enterprise"¹ through "maintaining safe and healthful working conditions in industry"² may point with pride to the men on their machines and machines on their schedules.

Spiraling technical complexities within the "super-shop of today"³ demand reasonable compliance with certain fundamental laws which are the stock and trade of the industrial hygienist and the safety engineer.

Aspects of industrial control which are concerned with ppm of pneumoconiotic dusts, decibels of auditory perceptual destructiveness, and the like, generally involve the engineering expert before the fact, and the physician after. However, in the case of occupational dermatitis, an approach that works out more satisfactorily is for management to integrate the skill and judgment of the two before and during the fact.

DR. CLIFFORD H. KALB is a consultant in clinical allergy, Milwaukee, Wis. This article was presented at an Industrial Hygiene Session sponsored by the American Society of Safety Engineers and the American Industrial Hygiene Association at the 39th National Safety Congress, Chicago, October 11, 1951.

Lest it be assumed by anyone that dermatitis is some special sort of curse indigenous to the sprawling network of the nation's major industries, let it be stated here and now that when circumstances dictate that a workman encounters an irritant to which his skin is intolerant, you have a case of occupational dermatitis in the making, whether you choose to call it "eczema," "rash," or "compensable dermatitis." Over the years I, too, have encountered instances of occupational dermatitis among my own half-dozen technical associates. The smaller plant, then, source of innumerable parts essential to the completion of larger composite products does well, indeed, to incorporate into operating procedure, those precautions which keep skilled hands on the job.

Large corporate interests, on the other hand, with thousands of diversified activities naturally encounter a very wide variety of intricate situations paralleling departmental exposure patterns. It is within this sphere of productive endeavor that teamwork control achieves maximal stature and maturity.

New Irritants

With the passing of the jack-of-all trades, industry geared itself to a tremendous productive capacity with a staggering array of potentially irritating chemical compounds. The advantages accruing from their use insofar as efficiency and output are concerned are well known, but ac-

tual statistics indicate that multiphasic control of dermatitis arising out of their use lags far behind, particularly where no organized Safety Hygiene program has been initiated.

The backfield of any control team depends for its speed and maneuverability upon the foreman in the linebacker spot close to the line of workers, flanked by the nurse and physician at the half-back positions, and the hygienist or safety man overseeing the entire play from his vantage point as fullback. When the ball is snapped and dermatitis crashes into the line of workers, the backfield with pre-arranged precision must close in and stop the play as quickly and effectively as possible.

Man-Hours Saved

If this analogy with football tactics can be carried over into your struggle with contact dermatitis due to occupational irritants, not only will your score be less humiliating, but your attendance in thousand man-hours will beat all records.

A workingman such as Eugene, who is willing to accept and carry out such advice as soaking an area of dermatitis in a pail of Hilex

1. Gleason, R. P., Selling Industrial Hygiene to Management—The Smaller Industry. *Am. Ind. Hyg. Q.* 12:104, Sept., 1951.

2. Greenburg, L., Selling Industrial Hygiene to Industry—The Official Agency. *Ibid.* 12:99, Sept. 1951.

3. Kalb, C. H., Sleuthing for Skin Irritants. *Natl. Safety News*, Nov. 1950.

solution is certainly a poor investment, unless he can be convinced that your nurse can prescribe more safely and intelligently. That some qualified physician will have to undo the mischief created by idiotic practices such as these is a foregone conclusion, but the increased loss of time, plus costly additional medical care required to restore the man's skin to normal, are unnecessary burdens upon the badly bent back of an employer's economy.

Overtreatment

Lars developed a minor irritation on the back of his hand which one evening became so annoying that he couldn't concentrate on the sports section of his newspaper. "Why don't you try that purple solution that cleaned up your athlete's foot last year," suggested his wife. "It sure cleared that up fast." The label on the potassium permanganate tablets read: "Dissolve one in water and soak feet twice daily." Lars, therefore, put a five grain pill into a few ounces of water in a small dish and soaked the hand for several hours. A few sessions with so powerful a concentration of this useful agent burned the tissues so severely that Lars was unable to use his hand and had to be seen in consultation, not for the original dermatitis which had long since turned to ash, but for the severe chemical burn which had resulted from improper handling of the original condition.

Situations such as these may appear novel or faintly amusing when regarded objectively, but take Fred's case as an instance of what goes on in some cases of dermatitis management. Six months of incessant applications of everything known to physicians, nurses, druggists and friends left Fred's feet something to behold in awe. His toes protruded from handmade sandals like so many purple, oozing balloons as he limped into the office.

That he had overtreated the tissues of his feet was a gross under-

ASSE Life Membership for J. A. Voss



Robert H. Ferguson (left) presents a certificate of life membership in ASSE to Joseph A. Voss, retired director of industrial relations for Republic Steel. At right is David L. Buchanan, president, Northern Ohio Chapter, ASSE.

A LIFE MEMBERSHIP in the American Society of Safety Engineers has been awarded to Joseph A. Voss, retired director of industrial relations for Republic Steel Corporation.

Presentation of the life membership was made at a dinner meeting of the Northern Ohio chapter of ASSE at the Engineers Club, Cleveland, October 22. Robert H. Ferguson, past president of ASSE and assistant director of industrial relations at Republic Steel, made the presentation. Mr. Voss is the first person to receive this highest award of ASSE by the Northern Ohio chapter.

Mr. Voss, originator of many accident-prevention techniques now used by industry, was born in Hammond, Ind. and attended public schools and Jones Business

College there. He later studied law at night schools.

Starting as assistant safety director for Inland Steel Company, Chicago, in 1909, he became safety director in 1918. He was appointed director of safety and compensation of the Central Steel Company, Massillon, Ohio, in 1923.

He held the same position when that company merged to form the Central Alloy Steel Corporation. When Central Alloy became a part of Republic Steel in 1930 he was placed in charge of Republic's department of industrial relations. After an extended illness, he resigned from Republic in March 1950.

Mr. Voss resides with his wife at 3017 Montgomery Road, Shaker Heights, Ohio.

statement, but the clue which finally returned him to comfort and freedom from dermatitis was discovered in a telephone conversation with his wife. I had asked Fred's wife if she wasn't afraid of catching this terrible skin condition, to which she replied, "I don't think so, doctor, you see my sister-in-law is a practical nurse and she told me months ago to soak his socks in strong Lysol

solution. It's sure hard on the socks, but believe me, I'm not taking any chances."

When I pointed out to the little woman that Fred might be a little upset to learn that his problem was essentially one of Lysol burns, she extracted from me a pledge of masterful silence in exchange for her promise to shift at once to boric acid soaks for the socks.

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A Cap for Luigi

(Fiction)

By BILL ANDREWS

December 3, 1951

I WAS RIDING HIGH. It was one of those mornings when things break fast and hard, calling forth high-tension activity on my part. And I hadn't muffed my play.

The feeling was like the one I used to get years ago when I played a fair game of shortstop for Tech. If a batter slammed a hard grounder to my left and I could make a stabbing catch of the ball, I had a set-up for a double play, and the fans would applaud long and loud. But most shortstopping (and most safety work) is handling those miserable slow rollers on which nobody can look good, or those exasperating bloopers that half the time send you into a collision with the left fielder.

This was a double-play day.

Just before I had to present my quarterly progress report and statement of future needs, we had an accident in the warehouse. A trucker spilled a load, fell with his leg pinned, fracture of the tibia. I considered turning the investigation over to Mason, but decided I had time to make a check myself. Result: I arrived ten minutes late to the meeting.

The irritation of the others at the delay quickly dissolved into interest in the accident. The fact that the load was castings and that the trucker's safety shoes saved him from a crushing injury was a bit of frosting on my cake, but the real break was that my principal recommendations for the next quarter concerned material handling. Actually, none of my recommendations were of a type

to prevent the particular accident we had this morning, but the story of the accident dramatized material handling in general and created a sympathetic atmosphere for my presentation.

It didn't seem to occur to anybody that I was at all to blame for the broken leg.

So I went out of that meeting with almost complete approval of my plans, with a warmer-than-average pat on the back from our president, with more-than-average enthusiasm on the part of the department heads. In other words, I looked good—and I looked particularly good to myself.

I felt good enough so that when Luigi, our oldest and most decrepit sweeper, stopped me at my office door to make a suggestion, I felt I could afford to be patron-

izing. I waved him into the office and offered him a chair. But I was also sufficiently full of a sense of my brilliance and importance that I didn't make a serious effort to follow his rather broken English. I put on my best bland "I'm interested in what you say," expression, but I thumbed through a report on my desk while he talked, concentrating my attention on a list of departmental first aid courses.

Obviously Luigi was talking generalities about housekeeping. He was clearly in favor of it, so I shifted to my nodded, "That's right, old man" look, but I kept on reading. I didn't react, either, when I heard dimly the words, "da warehouse is a mess, Meester," or even when he added something derogatory about "damn new boss dere."

I was just getting interested in the question of why, of all places, the assembly department of the Galeston plant had the highest percentage attendance at first aid classes, when Luigi made some comment about the morning's accident and stood up, twisting his dirty cap in his dirty hands. I looked up to say goodbye, so I *did* hear his question, "You gonna see about? You gonna stop dis kind a accidents, meester safety man?"

I started to say, "I'll look into it," but something in his tired, gray face and the dark eyes glinting stopped me. It was, perhaps, the incongruity of the situation—here I was, very self-satisfied, with my office, my staff, my title, my engineering degree. Here was Luigi who was completely lacking in skill, knowledge, position, self-confidence. In perhaps a half second I did a double and triple take on the situation. First came a sense of irritation that this underling presumed to tell me how to do my job. But that died fast under the realization that this little old man was scared, was deeply conscious that he was presuming in speaking out to authority, but that something deep in his heart was moving him to overcome his shyness, his subser-

vience. Realizing that, I knew I would be reckless to ignore whatever it was that had stirred him.

So I asked him to sit down again. I apologized for my lack of attention. He smiled, a warm Italian, olive-and-red-wine smile, and said, "Sure, meester, I know. You're busy man, an' Luigi is a' old man an' talks too much. Maybe I come back tomorra?"

I insisted, and he told his story again, and this time I listened. In essence, his point was that the new foreman in the warehouse was a hard pusher, but he didn't care about housekeeping. He'd cut his requests for sweepers by one man, thus showing a saving in operating cost. He'd let slip his predecessor's campaign to make the truckers responsible for keeping the place neat. He had failed to report some bad flooring that made it difficult for Luigi to sweep and was also a major tripping hazard.

It was one of those bad spots that had made the trucker lose his balance this morning, though he had staggered several steps and spilled his load some distance from the broken floorboard.

So, a lot too late, I listened to the one guy in the plant wise enough and informed enough to tell me one key to handling material safety in the plant. Before this day was much older, Harry and Jim had filed a detailed housekeeping and flooring inspection report on the warehouse. I had a talk with the warehouse foreman, scaring the daylights out of him with my predictions of the results of a continuation of his present attitude on saving pennies at the risk of accidents.

I also sent my secretary out to Levin's Haberdashery to buy Luigi the brightest checked cap in the place.

And I have added two new resolutions to a long list of very wise ones I've made (a few of which I've kept):

First, never to let any success based on lucky breaks stampede me into the illusion that I'm a big shot or a smart guy;

Second, never to forget that a



dirty face may be the front for good ideas and valuable information, and that broken English may be the medium for conveying such ideas and information.

Cause AND CURE

These examples, taken from actual cases, are presented for the use of people responsible for safety. It is believed that these, or similar cases experienced in the reader's own plant, can serve as a basis for safety discussion.

Sleeper



A worker was unloading cartons of freight from a box car. The cartons, weighing about 30 pounds each, were stacked five high. Instead of removing the top box first, he pulled out one of the middle cartons, ex-

pecting the top carton to settle down where he could reach it more easily. However, the carton fell and struck his hand, fracturing a finger and causing the loss of 36 days from work.

Correction: This is another "sleeper" case. Sleepers are common in miscellaneous loads in freight cars, in pulpwood piles, in scrap yards, and in all sorts of places where odd sized materials are piled. A sleeper is an object supported by another object in such a way that when the supporting piece is removed, the supported piece falls.

The sleeper is one of the commonest booby traps in industry. It is, however, easily avoided, because a brief inspection will in almost all cases reveal the situation and steps can be taken to render the booby trap harmless. In some cases this may mean simply working a load from the top down. In others, it may be necessary to provide support for a leaning object until the supporting piece can be removed and the potential sleeper taken down. It may be necessary in some cases to secure additional help for this purpose.

The cure for accidents of this kind is for supervisors to insist on the simple precaution of a quick once-over of the load or pile before anything is removed from it so that the danger spots can be detected and taken care of.

Meshed Gears—Mashed Man!



Will Haynes (name fictitious) was performing his regularly assigned duties as a tractor operator. Some engine trouble developed and Will stopped the tractor, shut off the ignition, and jumped off to fix the trouble.

He spent some time working on the engine adjustments while standing in a position next to the engine and between the rear and the front wheels of the tractor. Whether the work involved distributor, carburetor or fan belt doesn't matter; the important thing is that Will thought he had found the trouble and fixed it and, therefore, reached around from his working position to press the starter control. The engine immediately started, the tractor jumped forward because it had been left in gear, and ran over the operator. He died from his injuries several days later.

Correction: Will's untimely death was caused by two major factors; other accidents need not occur if only these two simple precautions are *always* taken:

- (1) Whenever alighting from a tractor, the operator should be sure that the transmission is in neutral, and the parking brake is set. (In some types of towed equipment, it is desirable to also have that towed equipment with the brake set, or adjusted in a "drag" position.)
- (2) Whenever an engine starter control is operated, the operator should be in the driver's position so that in the event the equipment has been inadvertently left in gear, he can be in a position to take immediate remedial action.

Bringing People Together

By A. C. BLACKMAN

The State's principal part in maintaining interest in safety is a long-range one; it is helping labor and management to work together

WHEN I say "maintaining interest," I do not mean making a lot of noise and pulling a lot of stunts to attract attention to safety. There is a vast difference between attracting attention to the thing you wish to sell and keeping a party sold on a proposition.

I prefer to think that a state agency is best fitted for the more conservative, long-range function of keeping both labor and management receptive and sold on the ever-present need of accident prevention.

Frankly, I would enjoy talking about novel and spectacular stunts that have been used out on the Pacific Coast to attract attention to safety. Novel and spectacular stunts are of course associated with Hollywood, which is, as some people know, not an empire in itself, but only a part of California.

Some of these Hollywoodian stunts are extremely amusing—and their repercussions even funnier. Like the lace on the hem of a woman's slip, stunts catch the eye. But then, slips have a way of falling—embarrassingly. And, as you all know, slips and falls are the greatest single source of industrial accidents.

A. C. BLACKMAN is chief, Division of Industrial Safety, State of California. This article has been adapted from an address given October 11, 1951, at the 39th National Safety Congress in Chicago.

Seriously, though, there is one phase of arousing and maintaining interest in accident prevention where a state agency, such as a state labor department, can function with unusually effective results.

Fundamentally, there are two groups—management and labor—interested in safety. Both want it, but each wants it for a different reason and insists on having it in a different way. Maybe it is because of these divergencies of opinions that we have enforcement of safety laws. Neither group likes enforcement—both therefore look upon the state labor department primarily as a policing agency. Unquestionably, enforcement is necessary, and the agency best qualified to see that places of employment are safe is a state labor department. But there is no reason why a labor department's function should be limited to enforcement alone. It can also save dollars for management, and lives and dollars for labor, through other means, such as by unifying the thoughts and efforts of these two partners in our industrial system. This is a function of a state labor department which no other agency can undertake.

Capital from Strife

Of course, there are those who feel that labor and management can never get together. Some even make capital out of this gospel of hatred. But I, for one, think that in America we are all one big

American family of workers, working together under a competitive system, and that the saving of life and limb transcends all other commercial values. I am also thoroughly convinced—and have found that it works in California—that a state labor department can be the medium through which both sides can be brought together and made to see eye to eye on their mutual problems.

A Common Language

If we can get management to drop the paternalistic attitude of "papa knows best what's good for the worker" and eliminate the resentment with which employees regard their "cold-blooded bosses," then both can begin to speak a common language and put their unified shoulders to the safety wheel and push it over.

It wasn't very long ago when a plant owner used to feel that he was a real philanthropist if he protected his workers with compensation insurance. Those were the days when employees refused to acknowledge an injury, for fear of being fired as a "careless" or accident-prone worker. Thank goodness those days are gone. Modern safety engineers are now beginning to recognize the fallacy of the old 85-15 ratio. They realize that forethought in safe planning is an obligation on the part of management, and that safe training is a responsibility of the unions also. Both sides are beginning to see the other side's point of view. —To page 74

National Safety News, December, 1951

MECHANIZE

4 Scrubbing Operations into 1

with a **COMBINATION SCRUBBER-VAC!**

Here's a timely answer to the need for conserving manpower and reducing labor costs—a single cleaning unit that completely mechanizes scrubbing. A Combination Scrubber-Vac applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor)—all in one operation! Maintenance men like this four-in-one feature; also the fact that the machine is self-propelled . . . has a positive clutch . . . new type of water valve that assures uniform flow of water . . . and powerful (quiet) vac for efficient pick-up.

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For demonstration, consultation, or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 2212 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

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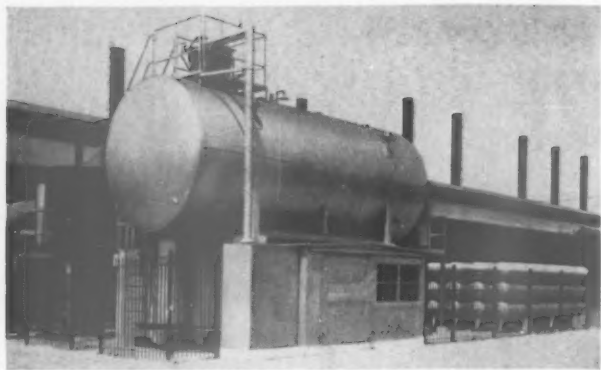


Figure 2. This unit in the foreground for storage of liquid oxygen holds as much oxygen as 6,150 oxygen cylinders.

—From page 40

greatly altered. This fact must be considered wherever liquid oxygen is handled.

9. Disagreeable burns can result if liquid oxygen remains in contact with skin for more than a few seconds. Burns also result if contact is made for any length of time with un-insulated pipe or vessels containing liquid oxygen.

Use

10. As a gas, oxygen has widespread use: with acetylene, in such processes as steel conditioning and metal cutting, welding, hardening, and cleaning; in the manufacture of steel and synthetic chemicals; for therapeutic purposes, in resuscitation and with other gases in anesthetic mixtures.

11. High purity liquid oxygen is used for laboratory work, while medium purity liquid oxygen is finding use as a refrigerant to cool metal parts in assembly work where shrink fitting is desired, and as an oxidizing agent in LOX blasting.

Shipping and Storage

12. Although most oxygen is used in the gaseous form, for convenience and economy in handling, large amounts are often shipped as a liquid and stored as a liquid for later conversion to the gas, or

immediately converted to the gas for storage or use.

13. The liquid is stored and shipped in specially designed and well insulated containers which maintain the pressure of the vapor above the liquid at near atmospheric or at a low positive pressure. The temperature of the liquid will remain at or near its normal boiling point (-183°C) and any heat leak into the container will not alter the temperature if the container is vented to permit vaporized oxygen to escape.

14. Storage and shipping tanks

and their insulation should be of non-combustible material. Leakage into the insulation should not create a fire hazard. If the insulation is contained by an outer metal jacket, the jacket should be vented so that in the event of any leakage, pressure will not build up and rupture the vessel.

15. The equipment and the techniques employed in the distribution of liquid oxygen are usually determined by the requirements of the user's installation. The user must be instructed by the supplier in the proper use of the supplying unit. These instructions and recommended precautions should be followed to the letter. However, in all cases—whether the supplying unit is a box tank car, a transport truck, or a small vacuum jug—the general safety measures outlined below will apply.

Precautions

16. Liquid oxygen, or any mixture containing liquid oxygen, should be used only by persons familiar with its properties and skilled in its use. The following precautions are recommended regardless of the use to which liquid oxygen is put.

17. Oxygen equipment must be
—To page 112



Figure 3. Here, liquid oxygen for use by a large hospital is being delivered by transport truck and converted into gaseous form for storage.



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Thom McAn Safety Shoes are made of the best grade leathers suitable to the job. Many models have the same dressy streetwear look that has sold over 200 million pairs of Thom McAns! Send for the Safety Shoe Booklet to see for yourself.

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Carefully constructed by the same master craftsmen who have made Thom McAn dress shoes famous. Roomy, flexible comfort in every inch of shoe!

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Send for the Safety Shoe Booklet. Describes and pictures each safety shoe, to help you select the right models for your special needs. Study the two plans this booklet offers—
1. store service through your local Thom McAn dealer.
2. plant service where there is no local dealer, or where you wish to use your own department. (Note especially the section under Plan 1, entitled "Four sure ways to get workers to buy safety shoes.")

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Power Press & Forging

W. L. Hanau, assistant superintendent, Engineering Dept., The Fidelity and Casualty Insurance Co. of New York, Chicago.

Printing & Publishing

W. A. Anderson, plant engineer, U. S. Government Printing Office, Washington, D. C.

Public Employees

Milton M. Bowman, supervisor, accident prevention, Cleveland Transit System, Cleveland, Ohio.

Public Utilities

W. H. Adams, Safety Department, American Gas Association, New York.

Pulp & Paper

H. B. Goodrich, safety engineer, Strathmore Paper Co., West Springfield, Mass.

Railroad

L. E. Hoffman, superintendent, rules and safety, St. Louis Southwestern Railway Lines, Tyler, Tex.

Rubber

George Burkhardt, General Tire & Rubber Co., Akron, Ohio.

Textiles

Neil Nelson, district engineering manager, American Mutual Liability Insurance Co., Manchester, N. H.

Wood Products

Joe T. Dunlap, safety supervisor, Dierks Lumber & Coal Co., De Queen, Ark.

COMING EVENTS

In the Field of Safety

Dec. 3-4, Baton Rouge, La.

Louisiana Safety Association, Annual Conference. (Louisiana State University). Charles E. Doerler, secretary, P. O. Box 806, Shreveport, La.

Jan. 21-24, Houston, Tex.

American Roadbuilders Association, Annual Meeting. Eugene Reybold, executive vice-president, International Building, Washington 4, D. C.

Mar. 2-4, Atlanta, Ga.

Thirteenth Annual Southern Safety Conference and Exposition. (Biltmore Hotel). Braxton B. Carr, executive director, Southern Safety Conference, 2120 First Ave. North, Birmingham 3, Ala.

Mar. 17-18, Boston

Thirty-first Annual Massachusetts Safety Conference and Exposition, (Hotel Statler). Edgar F. Copell, president, Massachusetts Safety Council, 31 State St., Boston.

Apr. 1-4, New York

Twenty-second Annual Convention, Greater New York Safety Council, (Hotel Statler). Paul F. Stricker, executive vice-president, 60 E. 42nd St., New York 17, N. Y.

Apr. 7-10, Detroit, Mich.

Twenty-second Annual Meeting, Michigan Safety Conference. (Hotel Statler). Frederick W. Krupp, executive secretary, 174 East Atwater Street, Detroit 26, Mich.

Apr. 15-17, Columbus, Ohio

All-Ohio Safety Conference. James H. Fluker, superintendent, Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus 15, Ohio.

Apr. 16-18, Charleston, W. Va.

Eighteenth Annual West Virginia Safety Conference. (Daniel Boone Hotel). E. G. Volz, general chairman, c/o Monsanto Chemical Corp., Nitro, W. Va.

Apr. 21-22, Toronto, Ont.

Industrial Accident Prevention Association, Annual Conference. (Royal York Hotel). R. G. D. Anderson, general manager, Industrial Accident Prevention Associations, 600 Bay St., Toronto 2, Ont.

May 4-6, Asheville, N. C.

Twenty-second Annual North Carolina State-wide Industrial Safety Conference. (George Vanderbilt Hotel). H. S. Baucom, safety director, North Carolina Industrial Commission, Raleigh, N. C.

May 6, Easton, Pa.

Twenty-fifth Annual Eastern Pennsylvania Safety Conference. Hotel Easton. Harry C. Woods, executive secretary, Lehigh Valley Safety Council, 602 E. Third St., Bethlehem, Pa.

May 8-9, Baltimore, Md.

Statewide Safety-Health Conference and Exhibit. (Lord Baltimore Hotel). Joseph A. Haller, director of safety, State Industrial Accident Commission, Equitable Bldg., Baltimore 2, Md.

May 15-17, Richmond, Va.

Eighteenth Annual Virginia State-Wide Safety Conference. (Jefferson Hotel). William M. Myers, executive secretary, Richmond Safety Council, 803½ E. Main St., Richmond 19, Va.

May 27-29, St. Louis, Mo.

Central States Safety Conference. (Hotel Jefferson). Reyburn Hoffman, secretary-manager, Safety Council of Greater St. Louis, Room 820, 511 Locust St., St. Louis 1, Mo.

Oct. 20-24, Chicago

Fortieth National Safety Congress and Exposition. (Conrad Hilton Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.



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UNDER
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All for Safety

and something for every phase
of it at the Exposition

IN A COLORFUL EXPOSITION which filled the Casino Room of the Congress Hotel and the Exhibition Hall of the Stevens, 140 exhibitors presented an impressive pageant of progress in the protection of the individual against the hazards of his environment.

The Exposition, an integral part of the 39th National Safety Congress, was visited by thousands of delegates during the week of October 8 to 12. Regardless of the visitor's background, he was sure to find something of practical interest in the attractively arranged booths. In addition to those products whose functions are directly protective, there was a variety of items essential to plant maintenance and operation which are of greatest importance in maintaining safe and healthful working conditions.

Displays of personal protective equipment were a reminder of

man's ability to devise means of carrying on necessary work amid surroundings dangerous to health due to flying objects, excessive heat or cold, irrespirable atmospheres, the handling of toxic or corrosive materials, and other hazards. There were garments and other items of protective equipment for every part of the body and every common occupation.

With civil defense programs

STEVENS HOTEL CHANGES NAME

Announcement of the 40th National Safety Congress and Exposition will list the CONRAD HILTON as one of the headquarters hotels. This is the new name of The STEVENS which has been host to many Congresses since it opened in 1927.

being stepped up throughout the country there was additional interest in methods of plant protection. There were exhibits of fire-fighting equipment for various types of industrial and for the handling and storage of flammable and explosive materials.

Equipment and supplies for plant housekeeping and sanitation were shown in great variety. For plant maintenance there were floor machines, vacuum cleaners, oil and grease absorbents, detergents and germicides, and other products essential to cleanliness and sanitation.

For personal comfort and hygiene there were such items as washroom equipment, skin cleansers, protective applications, and products for the control of athlete's foot.

Falls represent a universal problem and many exhibits dealt with reduction of these hazards. On display were many types of ladders and scaffolds, anti-slip flooring materials and floor finishes, also safety belts and harnesses.

Guards for several types of machines were demonstrated on actual machines.

Handling material equipment, which has made modern industry more efficient as well as safer, was represented in the exhibits of wire rope, hoisting chains, slings and accessories, and devices for mechanical handling.

Preparedness for emergencies has also concentrated attention on the extension of first aid training and the provision of adequate supplies of first aid materials, in addition to the normal needs of both large and small plants. Prominent in the displays were unit dressings which can be kept in sterile condition until used, avoiding waste and contamination.

Supplementing the exhibits of equipment for the correction of physical hazards were those of training aids, engineering services and materials for the promotion of safety programs. National Safety Council publications and services were featured in elaborate

—To page 52



Amid the crashing of forest giants and the chug-chug of burdened tractors, you'll find McKay Chains at work lifting, hauling, holding, rigging and otherwise helping lumbermen move their products to the markets of the world.

McKay Chains have proved themselves in performance, economy and long service life under all work conditions. In every industry, as in lumbering, "There is a McKay Chain for Every Use." No job is too big, none too small.

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Green Cross News . . .

Activities of Local Safety Councils and Chapters

Compiled by TOM A. BURKE

Director of Local Safety Programs, Field Organization, NSC

Plant Problem Seminar

The Industrial Section of the Pasadena District Chapter, NSC, under the leadership of Chairman T. W. Heidner, held the first of a series of seminars on industrial safety problems on November 7. The opening session, attended by more than 100, was devoted to an analysis of insurance and compensation costs and laws covering these fields. The second session is scheduled for December 5 and will be a panel discussion on particular industrial safety problems of plants in the Pasadena area; as indicated by returns on a questionnaire recently sent out by Chairman Heidner and his program committee.

Fire Protection Demonstration

In connection with Ft. Wayne's annual Fire Prevention Observance, the Safety Council of the Chamber of Commerce of that city sponsored a public "Fire Protection Demonstration" on Tuesday, October 9 at the General Electric Plant. Various types of extinguishers and combinations of extinguishers were used in spectacular demonstrations to control different types of fires. The demonstrations attracted wide public interest and were well attended. E. M. Hanauer of the Council's industrial division was chairman of the project.

Industrial Safety

Grand Rapids Safety Council launched its Fall series of industrial safety programs on September 25 at a joint meeting of the Council's Industrial, Commercial Fleet, Industrial Nursing and Health Divisions. J. E. Trainer,

vice-president in charge of production, Firestone Tire and Rubber Company, long prominent in NSC work, was the speaker. This was the first of several industrial sessions scheduled for the Fall and Winter months.

Youngstown Chapter

A group of business and industrial leaders of Youngstown, O., are planning to organize a Chapter of the National Safety Council. A budget of \$20,000 will be sought and a full time manager and staff will be employed. The organization committee is headed by Herman J. Spoerer, director of industrial relations, Youngstown Sheet & Tube Company. Paul Goss, former manager of the Dayton Chamber of Commerce, has been assisting the Youngstown group in setting up the new organization.

First Cincinnati Conference

The First Annual Greater Cincinnati Safety Conference, a one-day meeting, was held at the Netherlands Plaza hotel in that city on November 2. The Conference placed special emphasis on problems of industrial safety. Sectional meetings included Metal Products, Manufacturing and Processing, Public Utilities and Transportation, Commercial Vehicle, Industrial Medicine and Fire Prevention. Public sessions included Traffic, Home and Child safety. One of the features was an almost continuous showing of safety films throughout the day. Walter C. Beckjord, president of Cincinnati Gas & Electric Company, was general chairman and Edward W. Hodgetts headed the

committee on arrangements. The sessions were well attended. A banquet climaxed the day's activities.

"Safety Is Good Management"

"Safety Is Good Management" is the theme of the new supervisors' series of the Blackstone Valley Safety Council, Pawtucket, R. I. Each sponsor has its own group of foremen design one meeting around a speaker chosen by a meetings committee group. More than 600 supervisors attended the 1950 sessions and an even larger turnout is expected this year. The first session was held on October 16 and the other five meetings are scheduled about a month apart, to run through the winter months. One session called the "Visitation" will consist of a tour by the group to some large industrial plant in the Pawtucket area.


Just Say "Green Cross"

"There's real advertising value in wide use of the phrase 'Green Cross.' Every piece of literature we distribute carries the emblem and the wording. Every talk that is made emphasizes 'Green Cross,' as much or more than our rather long name, 'Eastbay Chapter of the National Safety Council.' All our radio announcements emphasize 'Green Cross, Green Cross,' over and over again. Our publicity releases always tie in both names—usually with special emphasis on 'Green Cross.' Why not? It's the national emblem of safety. Let's cash in on it! We try to make our public realize that Eastbay Chapter and Green Cross are

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- Comfortable, effective respiratory protection through continuing research
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Chemical Cartridge Respirator

No. 831

New molded rubber facepiece; a flexible rolled edge for greater comfort, dual, self-contained cartridges; protects against common industrial gases and vapors in low concentrations. Bureau of Mines Approval No. 2302.

You'll find in Willson's complete line of respirators and gas masks one or more that provide the necessary protection against toxic and nuisance dusts, mists, fumes, vapors and gases.

They provide also the comfort and ease of breathing that assures low fatigue—and worker cooperation in wearing safety equipment.



Lightweight Respirator No. 46

For protection against all dusts. Is easy to wear and features inexpensive throw-away filters. Bureau of Mines Approval No. 2152.



Mist and Dust Respirator No. 750D

Double, oversize filtering areas provide exceptionally easy breathing. Inexpensive throw-away filters are easily replaced. Bureau of Mines Approval No. 2151.



Metal Fumes, Mists, All Dusts No. 880

Same facepiece as described for No. 831. Comfortable under welding helmet. Dual filters are quickly replaced. Bureau of Mines Approval No. 2149.



Abrasive Blasting Helmet No. 51

Lightweight, hood type, with fitting for air line ventilation. Provides comfort and safety over long periods of time. Bureau of Mines Approval No. 1923.

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DAYTON, OHIO—The E. A. Kinsey Co.
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The Chas. A. Strelinger Co.
EL PASO, TEX.—E. D. Bullard Co.
GRAND RAPIDS, MICH.—F. Ranville Co.
GREENSBORO, N. C.—Smith-Courtney Co.
GREENVILLE, S. C.—Carolina Supply Co.
HICKORY, N. C.—Smith-Courtney Co.
HOUSTON, TEXAS—
Allied Safety Equipment, Inc.
INDIANAPOLIS, IND.—The E. A. Kinsey Co.
JACKSONVILLE, FLA.—
Cameron & Barkley Co.
KALAMAZOO, MICH.—Safety Services Inc.
KANSAS CITY, KANS.—
L. R. Stone Supply Co.
LOS ANGELES, CALIF.—E. D. Bullard Co.
LOUISVILLE, KY.—
Neill-LaVie Supply Co., Inc.
Ort Safety Equipment Co.
MEMPHIS, TENN.—J. E. Dilworth Co.
MIAMI, FLA.—Cameron & Barkley Co.

MILWAUKEE, WIS.—
Protective Equipment, Inc.
MUSKEGON, MICH.—Factory Supply Co.
NEWBURGH, N. Y.—W. L. Smith Co.
NEW ORLEANS, LA.—
Woodward, Wight & Co., Ltd.
NEW YORK, N. Y.—W. S. Wilson Corp.
OKLAHOMA CITY, OKLA.—
Hart Industrial Supply Co.
OMAHA, NEBR.—
Interstate Machinery & Supply Co.
ORLANDO, FLA.—Cameron & Barkley Co.
PHILADELPHIA, PA.—
Industrial Products Co.
PITTSBURGH, PA.—Safety First Supply Co.
PORTLAND, ORE.—J. E. Haseltine & Co.
PROVIDENCE, R. I.—James E. Tierney
RICHMOND, VA.—Smith-Courtney Co.
ST. LOUIS, MO.—Sligo, Incorporated
ST. PAUL, MINN.—
Farwell, Ozman, Kirk & Co.
SALT LAKE CITY, UTAH—
Industrial Supply Co., Inc.

SAN FRANCISCO, CALIF.—E. D. Bullard Co.
SANTA FE, N. MEX.—Hendrie & Bolthoff Co.
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SCRANTON, PA.—L. B. Potter Co.
SEATTLE, WASH.—J. E. Haseltine & Co.
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TACOMA, WASH.—J. E. Haseltine & Co.
TAMPA, FLA.—Cameron & Barkley Co.
TOLEDO, OHIO—Safety First Supply Co.
TROY, N. Y.—The Troy Belting & Supply Co.
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Kidde Multi-Jet Nozzle. The "business end" of a Kidde CO₂ fire extinguishing system. It blankets flame with fire-smothering carbon dioxide.



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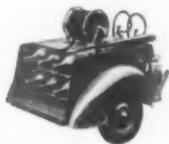
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All for Safety

—From page 46

exhibits at both the Congress and Stevens Hotels. The exhibit of the U. S. Department of Labor showed many phases of the government's program for the promotion of safety in industry. Many Council Sections also had displays of posters, literature and safety devices in their meeting rooms.

Following is a list of exhibitors:

Casino Room—Congress

Advance Glove Manufacturing Co.
All American Safety Equipment Co.
Canfield Oil Co.
Chemical Service of Baltimore
Chemical Specialties, Inc.
Detex Watchclock Corp.
Diamond Match Co.
Dow-Corning Corp.
Embosograf Corp. of America
Fairfield Glove Co.
Fendall Co.
Intoximeter Assn.
Lincoln-Schlueter Floor Machinery Co.
Logan Emergency Showers, Inc.
Louisville Metal Products Co., Inc.
Luther Manufacturing Co., Inc.
Magline, Inc.
Magnaflux Corp.
Masury-Young Co.
Multi-Clean Products, Inc.
National Safety Council
Osborn Manufacturing Co.
Pac-Kit Co.
Porto Clinic Instruments, Inc.
Racine Glove Co., Inc.
Rich Laboratories Sales Divn., Inc.

Rockwood Sprinkler Co.
Safety First Products Corp.
Safway Steel Products, Inc.
Sentry Shoe Co.
Stephenson Corp.
Wallace Optical Co.
Wilson-Albrecht Co., Inc.

Exhibition Hall—Stevens

Acme Protection Equipment Co.
Aetna Casualty & Surety Co.
Alan Wood Steel Co.
American Abrasive Metals Co.
American Chain & Cable Co., Inc.
American-LaFrance-Foamite Corp.
American Optical Co.
Ampco Metals, Inc.
Ansul Chemical Co.
Arcadia Manufacturing Co.
Bashlin, W. M., Co.
Bausch & Lomb Optical Co.
Best, Alfred M., Co., Inc.
Bradley Washfountain Co.
Brady, W. H., Co.
Breck, John H., Inc.
Browne, Stewart R., Manufacturing Co.
Buhrke, R. H., Co.
Bullard, E. D., Co.
Chance, A. B., Co.
Chicago Eye Shield Co.
Coca-Cola Bottling Co.
Columbus Glove Manufacturing Co.
Columbus-McKinnon Chain Corp.
C.O.-Two Fire Equipment Co.
Cunningham, M. E., Co.
Davis Emergency Equipment Co.
Diversey Corp.
Dockson Corp.
Dunn Products
Duo-Safety Ladder Corp.
Eagle-Picher Sales Co.
Edmont Manufacturing Co.
Elliott Service Co.
Emerson, J. H., Co.
Finnell System, Inc.
Franklin Research Co.
Gro-Cord Rubber Co.
Hild Floor Machine Co.
Hillyard Chemical Co.
Hy-Test Divn., International Shoe Co.
Industrial Gloves Co.
Insto-Gas Corp.
Iron Age Divn., H. Childs Co., Inc.
Junkin Safety Appliance Co., Inc.
Justrite Manufacturing Co.
Karel First Aid Supply Co.
Kearney, James R., Corp.
Keystone View Co.
Kidde, Walter & Co., Inc.
Kimbark Safety Products Co.
Klein, Mathias & Sons
Legge, Walter G., Co., Inc.
Lehigh Safety Shoe Co.
Lightfoot Schultz Co.
Macwhyte Co.
Marsh & McLennan, Inc.
Martindale Electric Co.
McAn, Thom, Safety Shoe Divn., Melville Shoe Corp.
McDermott, Julian A., Corp.
McDonald, B. F., Co.
Medical Supply Co.
Metropolitan Life Insurance Co.
Milburn Co.
Miller Equipment Co., Inc.
Mine Safety Appliances Co.
National Safety Council
Occupational Hazards, Inc.
Oil-Dri Corp., of America
Onox, Inc.
Packwood, G. H., Manufacturing Co.
Patent Scaffolding Co., Inc.
Positive Safety Manufacturing Co.
Protectoseal Co.
Pulmosan Safety Equipment Corp.
Pyrene Manufacturing Co.
Randolph Laboratories, Inc.
Reece Wooden Sole Shoe Co.
Rose Manufacturing Co.
Safety Clothing & Equipment Co.
Safety First Shoe Co.
Salisbury, W. H., & Co.
Sani-Mist, Inc.
Schrader's, A., Son
Scott Aviation Corp.
Sellstrom Manufacturing Co.
Spencer Turbine Co.
Standard Safety Equipment Co.
Steel Scaffolding Co., Inc.
Stepan Chemical Co.
Stonehouse Signs, Inc.
Sugar Beet Products Co.
Surety Rubber Co.
Surti Manufacturing Co., Inc.
Taylor, S. G., Chain Co.
Tennant, G. H., Co.
Trinal, Inc.
Union Wire Rope Corp.
United States Dept. of Labor
United States Safety Service Co.
Watchmoke Optical Co., Inc.
Waverly Petroleum Products Co.
West Disinfecting Co.
Wheeler Protective Apparel, Inc.
Wilkins Co., Inc.
Williams Jewelry & Manufacturing Co.
Willson Products, Inc.
Wyandotte Chemical Corp.





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**Says Mr. Charles T. Belbin,
Building Superintendent,
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Ask your WHIZ supplier to show you how CHECK-SLIP advantages apply to your floor maintenance and safety problems.

CHECK-SLIP demonstrated these advantages on asphalt tile and terrazzo:

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- Long-Wearing, Lasting Beauty
- Saves Time, Saves Money



This is a white asphalt tile floor in the Wire Building, kept clean and slip-safe by CHECK-SLIP.

National Safety News, December, 1951

The Safety Library

Books, Pamphlets and Periodicals of Interest to Safety Men

BOOKS AND PAMPHLETS

Combustion Processes

Combustion, Flames and Explosions of Gases. By Bernard Lewis and Guenther von Elbe published by Academic Press, Inc., New York. XIX plus 795 pages, \$13.50.

The original text on this subject by these authors appeared in 1938. This is not a second edition of the 1938 book, however, since it has been completely rewritten. It does follow approximately the style and subdivision of the earlier work.

It is concerned primarily with the underlying theory of combustion phenomena as it is understood at the present time. The authors are concerned with the fundamental chemical mechanisms involved in gaseous combustion phenomena and with their mathematical treatment in such a manner as to permit prediction of the course and nature of these reactions.

The first section is concerned with the chemistry and kinetics of reactions between fuel gases and oxygen in the cases where these are fairly well known. The systems discussed and treated mathematically are hydrogen, carbon monoxide and the straight chain hydrocarbon methane, ethane, propane and propylene. There is a more qualitative discussion of oxidation of other hydrocarbons and phenomena of engine knock and emission spectra and ionization in flames.

The second section is concerned with flame propagation and burner design. The third with the thermodynamic state of the exhaust gases and the fourth and smallest section with technical problems in combustion processes.

This is obviously aimed at the theoretical specialist in combustion

processes. It is not easy reading for the non-specialist. It does, however, represent the type of work which will eventually result in better and more complete control of industrial processes and can be recommended to the engineer who wants to get a really sound foundation in combustion processes in general.

F. A. Van Atta

Fire Protection

Fire Protection Conference Held at the 80th Annual Meeting of the Canadian Manufacturers Association. Reprinted from Industrial Canada. Published by Canadian Manufacturers' Association, 67 George St., Toronto 1, Ontario. 1951. 31 p. Free.

National Fire Code Vol. 1. Flammable Liquids, Gases, Chemicals and Explosives. Published by National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass. 1951. 799 p. Price \$4.00.

Standards for the Installation of Oil Burning Equipment. Published by National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass. 1951. 16 p. Price 25c. (NFPA No. 31)

Food Industry

Accident Analysis on Bottling Accidents from Texas State Bottlers Association. Published by Texas Employers Insurance Association, Dallas, Texas. 1951. 7 p. Free.

Magnesium

Extinguishing Magnesium Fires in Heat Treating Furnaces with Boron Trichloride. Published by Dow Chemical Co., Midland, Mich. 1951. 2 p. Free. (Technical Memorandum No. 17a)

Mines

Physiological Aspects of Electrical Accidents in Coal-Mining Industry. By S. J. Davenport and

G. G. Morgis. Published by U. S. Bureau of Mines. 1951. 19 p. Available from the Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa. Free. (Information Circular 7620)

Suggestion for Inspection of Roof-Bolt Installations. By Edward Thomas. Published by U. S. Bureau of Mines. 1951. 6 p. Available from the Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa. Free. (Information Circular 7621)

MAGAZINE ARTICLES

Burns

New Technique for Local Treatment of Burns. By Raymond M. Curtis, M. D. and others (In Journal of the American Medical Association, Oct. 20, 1951. p. 741)

Chemicals

Arsenic Frequently Overlooked as an Industrial Poison. By H. H. Schrenk. (In Industrial Engineering and Chemistry, Oct. 1951. p. 141A.)

Employees

Human Values in Accident Prevention. By Dwight S. Sargent. (In American Gas Association Monthly, Oct. 1951, p. 15.)

Gas Industry

Industry Maps Employee Safety Measures. (In American Gas Association Monthly, Oct. 1951, p. 2)

Health

Evaluation of the Pattern in Industrial Dermatitis of the Hands. By G. L. Waldboth. (In Industrial Medicine and Surgery, Oct. 1951. p. 431.)

The Industrial Health Movement with Special Reference to Dermatoses. By John Eric Dalton. (In the Journal of the American Medical Association, Oct. 27, 1951, p. 799)

Hospitals

Bridgeport Hospital Trains Employees in Fire Prevention. By Tom Wagner. (In Fire Engineering, Oct. 1951. p. 833.)

Lighting

Quality and Comfort in Indus-

BAUSCH & LOMB OCCUPATIONAL VISION SERVICE Case History



Visually-Equipped Workers 22% MORE EFFICIENT!

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BAG FACTORY 32%

BLEACHERY 32%

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MILL NO. 2 22%

AVERAGE ALL DEPARTMENTS 22%



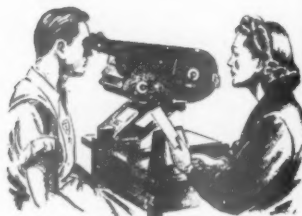
Percent greater efficiency of workers with proper vision over average of all workers.

Writes E. W. Howard*, Industrial Relations Director, Fulton Bag and Cotton Mills, Atlanta, Ga.: "Workers visually equipped (by Ortho-Rater measurement) to do their jobs, perform on an average 22% more efficiently than workers taken as a whole. Criteria used were average hourly piece rate earnings, where available, or

merit ratings. We also found average earnings highest among operators who met or exceeded visual standard ... poor-vision workers had twice as many accidents as good-vision workers—job attendance was 20% better among good-vision workers—worker attitude toward vision program is favorable."

*Reprint of Mr. Howard's complete article available on request.

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It's a matter of record that 4 of every ten industrial workers are visually unqualified for satisfactory performance on their jobs (established by the records of millions of visual performance tests of industrial workers in more than 4,000 different job categories). When visual skills are correlated to job requirements, working efficiency is notably increased. The Bausch & Lomb Occupational Vision Service is a scientific method for meeting this problem of "Eyes for the Job." Employee participation is voluntary...and workers like the program. Benefits which accrue in plants using O.V.S. (benefits which can accrue in your plant, too) include:

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2. Increased production per worker
3. Reduced waste of materials and work rejects
4. Improved accident record
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9. Improved employee relations

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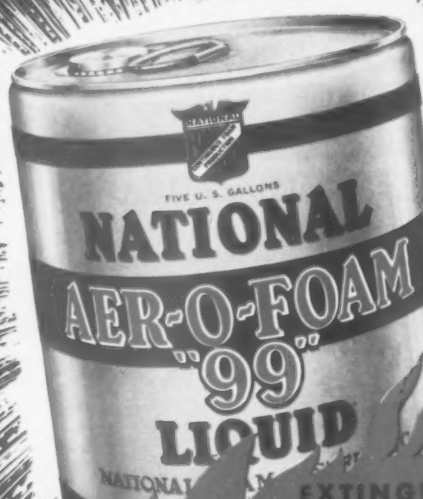
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Headquarters for Foam Fire Protection

WEST CHESTER, PENNA.



trial Lighting. (In Electric Light and Power. Sept., 1951. p. 68.)

Liquefied Petroleum

Steam Purging an L P Tank. By G. Russell King and Jesse S. Yeaw. (In American Gas Association Monthly. Oct. 1951. p. 25.)

Mines

The Colonial Mine Fire—Part I. By Wayne D. Snell. (In Coal Age. Sept., 1951. p. 110.)

How to Insure Full Protection with Electrical Safety Devices. By F. J. Buches. (In Coal Age. Sept., 1951. p. 89.)

The Story of the Development of the First Permissible Diesel Locomotive. By Gordon MacVean. (In Coal Age. Oct., 1951. p. 98.)

Railroads

Long Island Adds Automatic Braking. (In Modern Railroad. Oct., 1951. p. 59.)

CORRECTION

"The Accident Prevention Manual for Industrial Operations," Second Edition, should read as follows on page 19-11, paragraph 2 under the heading "Airline Respirators:"
—"The airline respirator furnishes complete protection against any atmosphere not immediately dangerous to life . . ."

Wisconsin Safety Meet At Madison

WISCONSIN'S Tenth Annual Mid-Winter Safety Meeting and Exposition will be held at the Schroeder Hotel, Milwaukee, Thursday and Friday, January 31 and February 1. Speakers secured for the program include Professor Irving J. Lee, Northwestern University; Clyde Powell, Lehigh Shoe Company, and Paul Jones, National Safety Council.

In addition to speakers, discussions and demonstrations, there will be an extensive display of safety equipment.

The meeting and exposition are sponsored by the Wisconsin Council of Safety in cooperation with the Wisconsin State Nurses Association, Wisconsin Industrial Commission and Wisconsin Manufacturers' Association.

Psychiatrist to patient: You don't have an inferiority complex; you are inferior.



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Industrial Health

Abstracts of current literature on Industrial

Hygiene, Medicine, and Nursing

By F. A. VAN ATTA, Industrial Department, NSC

Petroleum Products And Cancer

Experimental Analysis of the Carcinogenic Activity of Certain Petroleum Products, by William E. Smith, Douglas A. Sunderland and Kanematsu Sugiura. The Archives of Industrial Hygiene and Occupational Medicine, 4:299-314 (October 1951).

This study was initiated in 1945 at the request of the Medical Department of the Standard Oil Company of New Jersey to determine whether certain functions of oils produced by fluid catalytic cracking would produce cancers on experimental animals.

Preliminary experiments showed that the high boiling fraction of the oil would produce tumors on mice and if applied for a sufficiently long time would produce cancers. Tumors were also produced on rabbits, rats, guinea pigs and monkeys but mice were found to be the most satisfactory experimental animals.

Since the original exploratory experiments, tests for carcinogenicity have been carried on on approximately 400 samples from refinery and laboratory scale runs.

Preliminary experiments showed that white mice were more sensitive to production of tumors than dark mice and a minimum of 30 white male animals were used for each test. The catalytically cracked oil boiling below 700 degrees F. proved to be completely inert in the formation of tumors. The most potent single fraction was that boiling between 950 to 965 degrees F., the activity tapering off to each side of this region. The fractions between 700 and 800 degrees F. produced tumors but no cancers and that between 800 degrees and 1010 degrees F. produced both tumors and cancer.

The total active fractions represented less than 3 per cent of the oil sample.

Because of the wide boiling range of the material which produced tumors and cancers it is believed that more than one active material is present.

In an attempt to determine the chemical nature of the cancer producing materials some of the active oil was absorbed on a silica gel and various fractions then eluted with solvents. The fraction eluted with cumene possessed a much higher activity than either the original oil or the other fractions covered with other solvents. This is taken to indicate that the carcinogenic material is a highly condensed aromatic compound or compounds.

Tests were made on the feed stocks from various runs of catalytically cracked material which had carcinogenic fractions. The feed stocks were found to be either inactive or capable of producing benign tumors but no cancers.

Some tests were also run on petroleum towers and on some high boiling material from the Bureau of Mines Experimental Shell Oil Project. The petroleum towers were generally found to be mildly carcinogenic and the 550 to 700 degree Fahrenheit fraction from the Shell Oil was also found to be slightly carcinogenic.

Blending of these carcinogenic fractions with the original oils in such a manner that the total percentage of the carcinogenic fractions was not more than about 10 per cent removed the activity.

Properties of High-Boiling Petroleum Products, Physical and Chemical Properties as Related to Carcinogenic Activity, by H. G. M. Fischer, William Priestley, Jr., L. T. Eby, G. G. Wan-

less and John Rehner, Jr. The Archives of Industrial Hygiene and Occupational Medicine, 4:315-324 (October 1951).

This paper relates to the isolation of the chemical constituents of the carcinogenic petroleum products whose effects on mice were discussed in the previous paper. The problem set out for the chemists and physicists on the project was to determine as well as possible what substance or substances in the carcinogenic fractions were actually doing the damage, to find methods of assay to determine the amount of the actual carcinogenic materials in refinery products and if possible to find ways to eliminate the carcinogenic materials from the refinery products.

By a series of separations including the formation of maleic anhydride addition products and chromatographic development it was possible to isolate 6-isopropyl-1, 2-benzanthracene and one of the methyl chrysenes from samples of this oil. The 6-isopropyl-1, 2-benzanthracene is known to be highly carcinogenic and some of the methyl and dimethyl chrysenes are also known to be carcinogenic to mice although the position of the methyl group in this particular instance could not be determined.

A number of methods of chemical assay have been developed which show promise of correlating between the tumor potency as determined by mouse assay values and the chemical or physical assay method which can be carried out with sufficient speed to be of use in controlling refinery products. The ultra-violet light absorption of a series of these oils, when corrected for boiling point and viscosity, shows a very high correlation with the observed effectiveness in producing tumors in mice.

Extraction of a solution of the oil with aqueous caffeine solution and measuring light absorption of the caffeine hydrocarbon abstract gives a figure which is also di-

—To page 60

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CHAINS**

Industrial Health

—From page 58

rectly correlated with the tumor forming potency.

A somewhat less close correlation has been obtained by measuring the amount of maleic acid anhydride addition compound which is produced by the oil in question.

Any of these methods are fairly quick and could probably be used in the refinery. A somewhat slower method which gives a good correlation is the separation by the chromatographic technique and measurement of the refractive indices of the various fractions.

Some methods for dealing with carcinogenic refinery projects have been devised. The carcinogenic fraction present in crude paraffin waxes, for instance, is destroyed by the drastic sulphuric acid treatment to which the wax is subjected in refining.

Other fractions of relatively low potency have been blended with other fractions having low carcinogenic activity to the point where they are no longer harmful. In some instances it is also possible to use up the carcinogenic fractions within the refinery so that they never appear in finished products.

A Cancer-Control Program for High-Boiling Catalytically Cracked Oils, by J. P. Holt, N. V. Hendricks, R. E. Eckardt, C. L. Stanton and R. C. Page. The Archives of Industrial Hygiene and Occupational Medicine 4: 325-334 (October 1951).

When it was decided by the Standard Oil Company to install fluid catalytic cracking equipment it was suspected that the material produced might be carcinogenic and samples of the high-boiling catalytically cracked oils were immediately taken to the Barnard Free Skin and Cancer Hospital of St. Louis to be tested for carcinogenic activity. Preliminary tests there indicated that the material or part of it was carcinogenic and the work was repeated and extended in a number of places as indicated in the previous reports.

When it was established that some of these oils would produce skin cancers in lower animals, an

industrial hygiene survey was carried out in the six refineries where the process was in operation to indicate which employees might be exposed to the oils and to what extent. Slightly over 4,000 employees were found to be engaged in work which could involve skin contact with these oils. It was decided to place these employees under close medical supervision and to institute such industrial hygiene measures as could be devised to eliminate or diminish contact of the employees with the oils.

The industrial and medical program was set up to accomplish a twenty-point campaign all of which has been applied in some manner in the seven refineries of the Standard Oil Company which now have fluid catalytic cracking units. The twenty recommended points were:

1. Assign selected groups of workers to jobs involving contact with these oils to restrict the number of exposed employees.
2. Give the exposed workers physical examinations every three months with special attention to the presence of abnormalities of the skin.
3. Employees who are to be employed on work involving exposure with these oils should be chosen by the medical department to avoid those with an excessive number of pre-existing skin abnormalities, particularly warts, pre-cancerous lesions, keratoses or other skin diseases.
4. Any employee who shows warts or pre-cancerous lesion after exposure to these oils should be permanently removed from employment in which he might again be exposed to them.
5. Employees showing such skin lesions on the medical examination are to be given prompt medical treatment.
6. Protective clothing sufficient to prevent skin contact with the oils should be provided and worn by all involved employees.
7. Because of the high percentage of occupational cancers which have been seen on the face and scrotum, all employees should be instructed not to touch the scrotum or face with oily hands.

—To page 111

STOP-FIRE is the LINE for complete FIRE PROTECTION

NEW ONE HAND
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Hazards differ—and extinguishers differ. For absolute safety, look to the expert and the World's Most Complete Line for selection of the one right extinguisher for each danger zone. And, to kill fire in seconds, count on CBM (chlorobromomethane), the amazing new chemical that smothers fire three times faster.

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Redi-Pressure	Foam
Redi-Grip	Cartridge-Operated
Automatic Ceiling Type	Pump Tanks
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FREE—FIRE GUIDE
BOOKLET



STOP FIRE

TRADE INC. MARK

BROOKLYN 1, NEW YORK

THE ACCIDENT BAROMETER

Prepared by the Statistical Division, National Safety Council

Accidental deaths in August numbered approximately 8,300, an increase of 4 per cent over 1950. There was a sizeable increase in motor-vehicle fatalities and a small increase in deaths from occupational accidents. Deaths from public non-motor-vehicle accidents numbered about the same as last year. A small reduction was reported in home accident fatalities.

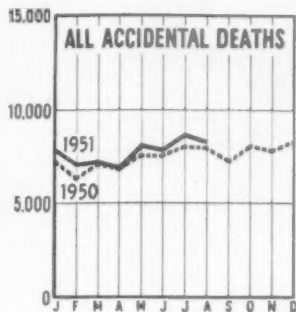
The eight-month death total was 62,200, a 6 per cent increase over the comparable total of 58,600 in 1950. There were more deaths than last year in each class of accidents, with the largest increase recorded in deaths from motor-vehicle accidents and the smallest in deaths from home accidents.

Motor-Vehicle Deaths

There were approximately 3,560 deaths from motor-vehicle accidents in August, or 11 per cent more than last year. Compared to 1949, it was an increase of 22 per cent.

Deaths during the eight months totaled 23,030, an increase of 7 per cent over the 1950 comparable total of 21,480. The death rate per 100,000,000 vehicle miles was 6.9, a 1 per cent reduction from the 1950 eight-month rate of 7.0.

Of the 43 states reporting for eight months, 14 had fewer deaths than last year and 29 had more deaths. Reporting cities with populations of 10,000 or more had



	1951	1950	Change
August	8,300	8,000	+4%
Eight Months	62,200	58,600	+6%

a reduction of 8 per cent in deaths for August, but an increase of 3 per cent for eight months.

Regional changes from 1950 in the eight-month death totals were:

North Atlantic	+ 5%
South Atlantic	+ 5%
North Central	+ 6%
South Central	+ 4%
Mountain	+ 9%
Pacific	+17%

Occupational Accidents

Deaths in August resulting from occupational accidents numbered approximately 1,400, or 100 more than last year. The eight-month total was 11,200, an increase of 8 per cent over 1950.

The August frequency rate per million man-hours in seven sectional accident prevention contests conducted by the National Safety Council was 7.01, an increase of

32 per cent, while the eight-month rate was 6.69, a reduction of 1 per cent from 1950. The August frequency rate for community council inter-plant contests was 8.16, a decrease of 11 per cent from last year. The eight-month rate was the same as in 1950—8.23.

Public Deaths

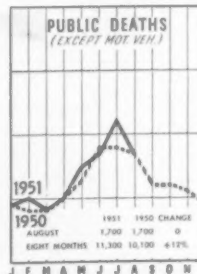
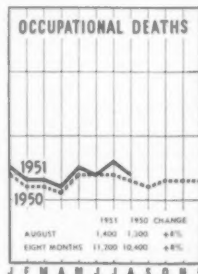
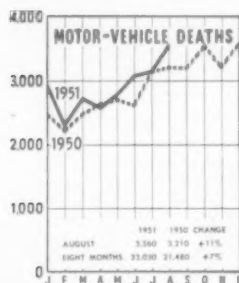
Public non-motor-vehicle deaths in August numbered about the same as last year—1,700.

Deaths during the eight months totaled 23,030, an increase of 7 per cent over 1950. There were sizeable increases in deaths from firearms and transportation accidents, a moderate increase in falls and a small increase in drownings. A large reduction occurred in fatalities resulting from burns. All age groups showed some increase with the largest change recorded in deaths of children under 5 years of age.

Home Deaths

Deaths from home accidents numbered approximately 1,900 in August, a reduction of 5 per cent from last year.

The eight-month death total was 18,300, an increase of 100 deaths over 1950. Increases in deaths from mechanical suffocation, burns and falls were nearly offset by decreases in deaths from poisonings and firearms accidents. Deaths of children under 15 years of age and persons 65 years and over were more numerous than last year. Reductions were recorded for all age groups from 15 to 64 years.



Medal of Honor



*Sergeant Travis Watkins,
Gladeview, Tex.—Medal of Honor*



*Private First Class Melvin Brown,
Mahaffey, Pa.—Medal of Honor*



*Lieutenant Frederick Henry,
Clinton, Okla.—Medal of Honor*



*Major General William F. Dean,
Berkeley, Calif.—Medal of Honor*



*Sergeant Charles Turner,
Boston, Mass.—Medal of Honor*

This is the season when you think of stars. The ones over Bethlehem. The ones on Christmas trees.

But this year remember another star, too—the one on the Medal of Honor. And make a place in your heart for the brave, good men who've won it. Men who, oftener than not, made the final, greatest sacrifice—so that the stars on your Christmas tree, and the stars in your country's flag, might forever shine undimmed.

Right now—today—is the time to do something

important for these men who died for you. You can, by helping to defend the country they defended so far “above and beyond the call of duty.”

One of the best ways you can make defense your job, too, is to buy more . . . and more . . . and more United States Defense Bonds. For your bonds help strengthen America. And if you make this nation strong enough you'll create, and keep, the peace for which men died.

Buy Defense Bonds through the Payroll Savings Plan where you work or the Bond-A-Month Plan where you bank. Start today!

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Weak Spot in Program

—From page 33

respirators; air-moving devices for clearing enclosed areas of toxic or combustible gases, dusts, and vapors; welding helmets, jackets, leggings, aprons and gloves; first aid kits; babbitting and acid masks.

Shortly after mid-1949 it was announced that Tyrone Mill had won the award for Class B mills in the Pulp and Paper Industry contest for the year ending June 30, 1949, with a frequency rate of .59. Every employee in the mill felt a personal pride in the achievement.

So well has safety been established at Tyrone Mill that every man here is, in effect, a safety committee in himself. If a man neglects to wear goggles or respirator, or other protective equipment when needed, or commits some other violation of sound safety practice, the men working with him soon remind him that he is endangering himself as well as the safety record of the group and of the mill.

The contest year 1948-49 when the National Safety Council award was won by the mill was one of full production in the pulp, paper and chemical operations carried on here. An average of 820 employees worked 1,694,184 man-hours with only one disabling injury.

At this point, I might call attention to the fact that contest safety records at this time were figured for two different periods at the

mill. Up to mid-1949 the National Safety Council's contest year included the first six months of the current year and the last six months of the preceding year—July 1 through June 30. Our company keeps its records by its fiscal year, November 1 through October 31. This explanation will help to clear up the seeming discrepancies between the two sets of figures in Table I.

In July 1949 Robert K. (Spike) Meredith was named full-time safety director at Tyrone Mill. In connection with safety improvements Mr. Meredith reports:

"There is no complacency by either management or employees about accidents. We study each accident report very thoroughly. We find the cause and we plan our program of education accordingly.

"One great help to our safety committee is that every employee has been thoroughly trained in the use of various items of safety equipment that come within the scope of his work. Although we have a permanent safety committee, and membership on it is keenly sought, every employee is in effect a member. Each man is responsible for the safety of his fellow workers, himself and the plant.

"No one here looks on safety measures or safety devices as mere trimmings. The men have learned what these things mean. They know how to do their individual jobs the way they should be done, and they translate their own desire for safety into consistently safe work practices."

TABLE I

NSC Contest Year	Frequency Rate	WVP&P's Fiscal Year	Frequency Rate	Disabling Injuries
1943-1944	54.34	1944	63.39	89
1944-1945	77.08	1945	55.82	76
1945-1946	10.71 *	1946	10.05 **	17
1946-1947	5.85	1947	5.28	9
1947-1948	7.58	1948	4.64	8
1948-1949	.59	1949	2.35	4
1949 ***	2.97	1950	1.88	3
1950	1.27			

* First full NCC contest year during which Tyrone Mill's new safety program was in force. The drop in frequency from the preceding year was 66.37.

** First full fiscal year of the Company for the new safety program. The drop in the number of disabling injuries from the preceding fiscal year was 59, while the decrease in the frequency rate was 45.77.

*** During 1949 National Safety Council changed its contest year to correspond to the calendar year. Thus there were two sets of figures issued that year, one at the end of June, the other at the end of December.

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FOIL-ENVELOPE

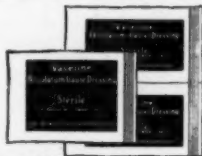
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foil-envelope, cut with scissors along dotted line on back of envelope...or in an emergency, tear off seal carefully below this line...end of dressing is pulled out of envelope with one hand (use forceps, if handy), while envelope is held with other hand.



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damaged surface and area two inches beyond with two layers or more of petrolatum gauze dressing...then apply sterile dry bandage to keep clean and hold gently in place—using first-aid principles...have injury examined by a physician.



Two Sizes:

Unit envelope: one 3" x 3 1/2" dressing.
Duplex envelope: two 3" x 1 1/2" dressings.
Six envelopes to the illustrated carton.

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you can rely on . . .

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Sheets of Cool Light

A NEW AND REVOLUTIONARY method of producing light, differing from both incandescent and fluorescent sources, was demonstrated recently by Sylvania Electric Products, Inc. The new method employs thin flat sheets of glowing glass instead of bulbs and tubes. It operates at low cost on household AC.

Sheets of this glowing material can be made in almost any size to provide luminous ceilings, walls, tables, clock faces, stair risers, switch plates, and signs, according to Dr. F. E. Lowry, of Sylvania, head of the research group which developed the new lighting principle.

This "area" light source, which has been sought by lighting engineers and architects for many years, is a luminous kind of condenser called "Panelite." The technical term for this lighting development is electro-luminescence.

The lamp consists of a special sheet of conductive glass, on which is placed a phosphor-dielectric coating, and a layer of vaporized

aluminum. These two coatings add less than 1/100 of an inch to the glass itself—almost the ultimate in thinness. Wires connected to the edges of the sheet pick up current directly from 110-volt 60-cycle house current. Under this condition the brightness of the sheets is said to be more than enough for night clocks, roughly comparable with bright moonlight on a white object.

For greater brightness a small inexpensive transformer is introduced in the circuit to bring the voltage up to 400-500 volts. For a panel a foot or two square the transformer would be no larger than a cigaret package. The transformer multiplies the light output by 20. It is believed to be ample for low-level illumination of restaurants, elevators, theater aisles, and many other decorative and architectural applications.

Many applications not requiring a transformer, such as wall plate switches, clock faces and safety lights, can be connected permanently to house or building wiring to run 24 hours a day. Most uses of this sort would be rated at about 1/25 watt, costing not more than 2 or 3 cents a year to operate continuously. Even with the use of transformers which build up brightness and therefore require more power, a 4 by 6 foot panel consumes less energy than a 25-watt bulb.

The panels will be made in a variety of colors, including white, golden yellow and light blue. At present a brilliant green is the only color available commercially.

Possible applications are numerous although still somewhat limited because of the present status of commercial development. The following uses are included in the list:

Luminous panels for walls, windows and other structural elements.

Dials and faces for clocks, instruments and meters.



Lighted commercial clock uses new "panelite" lighting principle. An area-type light source as opposed to the incandescent or fluorescent source, panelite employs a flat sheet of glass with layers of light-producing phosphor-dielectric film and vaporized aluminum. Operating with self-contained, cigarette-package-size transformer, which raises power to 500 volts, clock plugs into ordinary AC outlet. This clock face is a brilliant green. Other colors, including white, are planned.

Viewing plates for X-rays, photographic transparencies, tracings, and industrial inspection.

Accident prevention markings, such as switch plates, night lights, stair risers, and guard rails.

Indicator devices, such as elevator panels and exit signs.

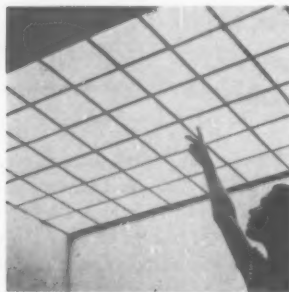
Free standing luminous objects, such as signs and religious crosses.

Furniture details, such as shelves and table tops.

Applications fall into four major classes:

1. Visual recognition by dark adapted eyes.
2. Decorative lighting effects for normal interiors.
3. Luminous panels not handicapped by a third dimension, by heat, or by poor uniformity.
4. Light for normal seeing purposes.

No rating on life has yet been established but it is expected to be measured in years. Unless breakdown occurs, prevented largely by adequate design, and evident only by minute black spots on the lamp face, life seems indefinite. There are probably chemical and other phenomena which affect brightness in service, and therefore practical ratings have been estimated at one to five years. Moisture tends to accelerate chemical processes and can be a factor leading to electric breakdown.



Luminous ceiling, 1/2-inch thick and 6 feet wide, is an architectural use for the new "area" lighting source, known as "panelite," developed by Sylvania Electric Products Inc. Ceiling consists of squares of specially-treated glass connected to house current, has a brightness of 2 1/2 foot lamberts, throwing approximately 1 1/2 foot-candles on the model shown here. Small transformer brings house current up to 500 volts, but entire ceiling uses less current than a 75-watt incandescent bulb. New light source is expected to prove useful for low-level illumination in restaurants, elevators, theatre aisles, signs, etc.

GET TRACTION-ACTION



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ANTI-SLIP FLOOR
DRESSING...
REDUCES FALLS

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FLOORSAFE

is a new discovery

FLOORSAFE

is "everything" in one product

If you are technically inclined, you will be interested to know that FLOORSAFE brings you a brand new application of synthetic resins. Its high coefficient of friction gives it built-in **TRACTION-ACTION**.

FLOORSAFE with **TRACTION-ACTION** was developed, through years of research in the MYCO laboratories, to bring industry and business a new, higher standard of floor safety. It offers all these important benefits in one quick-drying, easy-to-use floor dressing:

- SUPERIOR ANTI-SLIP PROPERTIES
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"MYCO means MORE for Your Money — More Value — More Service — More Satisfaction"

Personals

Gay Heads ASA

ROGER E. GAY, president of The Bristol Brass Corporation, Bristol, Conn., has been elected president of the American Standards Association. The announcement was made at the Annual Meeting luncheon of the American Standards Association which closed the three-day Second National Standardization Conference held at the Waldorf-Astoria, New York.

Edward T. Gushee, vice-president, the Detroit Edison Co., Detroit, was elected vice-president.

Mr. Gay has been on the Board of Directors of ASA since 1946, representing the Copper and Brass Research Association. He is a director of the National Association of Manufacturers, and is chairman of its Industrial Problems Committee. He is also a member of the Brass Mill Industry Advisory Committee to the National Production Authority. During World War II, he was a member of the War Production Board Advisory Committee to the copper and brass industry, and chairman of a similar committee for the Office of Price Administration.

Newly elected directors are: Willard Chevalier, executive vice-president, McGraw-Hill Publishing Co. New York, member-at-large, and R. D. Bonney, manager of manufacturing Congoleum-Nairn, Inc., Kearney, N. J., representing the American Society for Testing Materials.

POSITION DESIRED

Safety and/or Personnel. At present I am safety director of a medium size plant. Have had 15 years' experience in industrial manufacturing, building construction, chemical plant operation, also qualified instructor in fire fighting and first aid courses. Records and recommendations are available. Would prefer to locate in the West or Southwest of U. S. Address Box 422, NATIONAL SAFETY NEWS.

Re-elected directors, in addition to Mr. Gay are: Hoyt P. Steele, executive vice-president, Benjamin Electric Manufacturing Co., Des Plaines, Ill., representing the National Electrical Manufacturers Association; R. A. Colgan, Jr., Shasta Forests Co., Reading, Cal., representing the National Lumber Manufacturers Association; Miss Ardenia Chapman, dean of the College of Home Economics, Drexel Institute of Technology, Philadelphia, representing the American Home Economics Association.

LEWIS E. SHINGLEDECKER, Springfield, Ohio, has been appointed supervisor of fire safety for the Farm Bureau Insurance Companies, Columbus, Ohio.

Mr. Shingledecker will organize and conduct a fire safety education program in rural and urban areas in the 12 eastern states in which the companies operate. An appointee to the governor's Fire Safety Committee, he is a member of the American Society of Safety Engineers and the Industrial Civilian Defense Committee for Ohio.

Obituary

RALPH W. ELLIS

RALPH W. ELLIS, executive vice-president of the Hampden County Accident Prevention Council, Springfield, Mass., died November 3 in Mercy Hospital in Springfield. He had been under treatment for a heart condition.

Mr. Ellis was born in Springfield May 3, 1896. He became executive vice-president of the Council in 1934. He attended Berkshire Preparatory School in Sheffield, Boston University and Harvard Graduate School of Education.

While in high school he became active in youth work and for several years served in executive positions with the Boy Scouts of America. Active in civilian de-



Ralph W. Ellis

fense organization during World War II, he served as assistant regional director of Region 2, Massachusetts Committee on Public Safety.

He was a trustee of the Association of Safety Council Executives and a member of the National Education Association, Veterans of Safety, American Society of Safety Engineers, International Association of Chiefs of Police, Springfield Lions Club, and several Masonic bodies. He was a deputy sheriff of Hampden County.

Safety Is Part of "Excellent Management"

Four out of every five of the industrial companies selected as "excellently managed" by the American Institute of Management are members of the National Safety Council.

A comparison of the Council's roster with the Institute's selections showed memberships, and often an active part in Council affairs, for 172 of the 212 companies in mining, manufacturing, petroleum, construction, transportation, communications, utility and casualty insurance. Even among an additional 29 financial, management, merchandising and publishing companies, six are members.

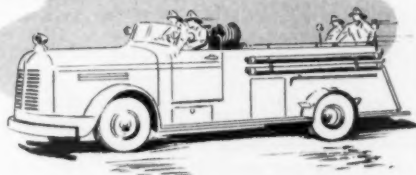
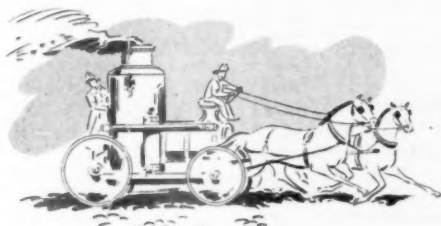
Now! Fenwal DETECT-A-FIRE

unit brings you

unique, new

rate compensation

fire detection



AS DIFFERENT from existing principles of fire detection as the fire-fighting equipment above!

Visit our Booth 603 at the Chemical Industries Exposition, Grand Central Palace, N. Y.

Why risk *lines* and costly property replacement due to undetected fires? With unique, DETECT-A-FIRE units you do away with time lag, false alarms. Based on a new rate-compensation principle of fire detection, these units respond *only* when the temperature of the surrounding air reaches predetermined danger level. Recommended for plants, ships, institutions, commercial, mercantile, and public buildings. Listed by ®. Approved by ® — U. S. Coast Guard.

PLEASE SEND ME THE BASIC FACTS about the new Fenwal DETECT-A-FIRE unit for institutional, commercial, mercantile, industrial, and marine locations.

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Company
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The SAFETY VALVE

Sweet Charity

"GIVE TILL IT HURTS" was a slogan formerly used to inspire philanthropic sacrifice. But people have varying thresholds of pain.

A survey made in 1943 indicated that the average person with an income of \$3,000 or over contributed about 2.2 per cent of his income to tax-exempt organizations. War-time giving was probably at its peak then.

On that basis, which is probably liberal, a man getting ten grand a year would give \$220 of it to his church, Community Chest, Red Cross, polio, cancer, heart, tag days, and all the rest of the drives.

Uncle Sam allows deductions up to 15 per cent of our income for philanthropy, but if you approach even the Biblical tithe better have the cancelled checks ready to show the Treasury Department.

"Don't fall for hard luck stories," the professional fund raisers tell volunteer workers. "Most people can give a lot more than they do. They're looking for excuses." The average person probably doesn't give the price of two packs of fags a day to deserving causes.

The underprivileged aren't the only ones who get the benefits of philanthropy. Hospital bills may look like the national debt but the service has been made possible often because big-hearted millionaires have come across with fat checks. And fewer people would have college degrees if the full cost of higher education came out of dad's pocket. Philanthropy paid the difference.

And if we don't have private giving, the alternative is state philanthropy, which is something to be included in the Litany. Of course, a certain amount of state operated charity is inevitable, but

operation should be kept as nearly as possible to the local level.

Automat on Wheels

AS LONG AS most of us can remember, the news butcher has been a part of the American railroad scene. His stock of refreshments, reading matter, souvenir post cards and novelties helped to take the monotony out of coach trips on a slow train.

Now it looks as though the news butcher is giving way to an impersonal vending machine. The Pennsy announces that automatic coin-operated machines dispensing fresh sandwiches, pastries, ice cream, milk and coffee are being tried out on certain runs.

The machines are to be installed in a conveniently located car with directional signs at the end of each coach. Sample menus sound varied and appetizing and any coin-operated machine is always fascinating. Many who aren't tempted by the 26 girl are suckers for a slot machine.

Public Health Progress

MANY PEOPLE now living can remember when a trip to sub-tropical parts of the U. S. A. was taking your life in your hands. Epidemics of cholera and yellow fever were frequent and particularly deadly to Northern folks with low resistance to local bugs and bacteria.

In its glamorous past New Orleans was one of the country's worst pest holes, but now the tourist can revel in the antiquarian charm of the Vieux Carre without worrying. Recently I returned (regretfully) from a week down there with no apparent ill effects. My daughter and infant granddaughter came home none the worse for two months of that city's brutal summer heat.

I did think of yellow jack when I swatted mosquitoes and cholera when I drank what came out of the tap, and I was grateful to the public health doctors and engineers who made this fascinating spot safe for tourists.

God Rest You, Merry Gentlemen

THE DECEMBER DEADLINE found me without a single idea for a Christmas piece. The clippings in the idea file were like so many last year's bird's nests. Perhaps I was thinking more about the rhetoric than the spirit of the season, like so many other people who write for publication.

Into my doldrums came the monthly bulletin which Phil Carspecken writes for Employers Mutuals at Wausau, Wis. From it I'm passing on this bit of verse entitled "The Christmas Spirit":

*I'm more than just a gaudy show
Of red and green and tinsel shine.
I'm more than steaming, festive foods
And clustered gifts in wrappings fine.
I fling a brightness o'er the heart;
A gleam of star-shine from the night.
I drape good will around the world
And trim humanity with light.*

To those thoughts I add my own wishes for a Merry Christmas!

In This Issue . . .

RESEARCH has made some valuable contributions to safe equipment and safe methods, and safety in return is aiding research work in many ways. With highly trained, non-expandable personnel and costly apparatus and thousands of dollars tied up in a single project, safety measures are vital. (Page 18.)

* * *

For years the Schaefer prone pressure method of resuscitation has been the favored method among agencies promoting first aid and life saving instruction and it has saved thousands of lives. Recent studies, however, indicate that other methods are even more efficient. (Page 20.)

Carman Fisk

**3 better ways
to fight fires...**

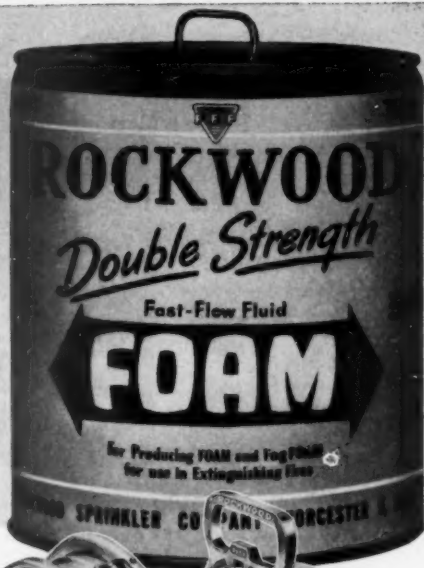
**ALL WITH
ONE NOZZLE**

- 1 Fog FOAM**
- 2 Solid FOAM stream**
- 3 High Velocity WaterFOG**

Rockwood Double Strength FOAM Liquid used thru Rockwood FFF FogFOAM Nozzles enables fire fighters to cover burning surfaces with a blanket of FOAM faster and more efficiently. The 3 methods — 1. FogFOAM, 2. Solid FOAM Stream and 3. High Velocity WaterFOG combined in the one FFF FogFOAM Nozzle will give you a better weapon for extinguishing and controlling fires in gasoline and other flammable liquids and materials.

Rockwood FOAM Liquid and FogFOAM Nozzles are now being used to fight large running gasoline fires and spill fires in oil refineries, fires in oil storage tanks — or for crash-rescue fire fighting at airports and also for municipal and industrial fire fighting requirements. All these hazards require special proportioning systems for discharging the FOAM Liquid. Custom engineered proportioning systems to meet such unusual requirements is a Rockwood specialty. For complete data and prices write today.

Remember, the most efficient way to apply Rockwood FOAM Liquid and Wetting agent to most fires is thru Rockwood fire fighting devices.



New Lightweight type FFF FogFOAM Nozzle with FogFOAM screen attached. Available in three sizes for service on 1½" and 2½" or 3½" hose.

(1.) Thru the FogFOAM screen a wide pattern of FogFOAM can be applied directly to the burning gasoline without harmful agitation to the surface. This means faster and more efficient extinguishment of fire. FogFOAM screen can easily be attached or removed.



(2.) Thru FOAM shaper a solid FOAM stream can be projected to reach fires at considerable distances. FOAM Shaper can also be easily attached or removed.



(3.) If FOAM Liquid supply is exhausted, the Rockwood FFF FogFOAM Nozzle will discharge a wide pattern of High Velocity WaterFOG.



**ROCKWOOD
SPRINKLER COMPANY
72 HARLOW STREET
WORCESTER 5, MASS.**

PORTABLE FIRE PROTECTION DIVISION



Employees of Atlas Powder Company's blasting supplies plant near Tamaqua, Pa., at ceremony celebrating more than five years without a disabling injury. Ned H. Dearborn, president, National Safety Council, is speaking.

Safer Than You Think

AROUND TAMAQUA, PA., on the southern fringe of the anthracite region, the person who says he's going to work in an explosives plant might be taking the job because it's one of the safest around.

There is substantial background for that reasoning, especially if he is going to work in Atlas Powder Company's Blasting Supplies

Works, located in Reynolds, a few miles from Tamaqua.

The plant recently was honored by the National Safety Council for 7,295,260 injury-free hours from December 6, 1945, to March 14, 1951. The Council cited the achievement as a world's safety record for explosives plants.

At a recent ceremony on the

plant site, Ned H. Dearborn, NSC president, presented the plant and its employees with the Council's Award of Honor for Distinguished Service to Safety.

A permanent granite monument also was presented by Isaac Fogg, president of Atlas, on behalf of the company. It was the first such award made by the firm and it was the first time that a high explosives plant won the DSS award.

Atlas, which has its home office in Wilmington, Del., has five dynamite plants in addition to the blasting supplies works. It also has other plants producing industrial finishes, chemicals and activated carbons.

The majority of the plant's 800-odd employees attended the outdoor, noon-time affair which was climaxed by the raising of the DSS pennant and the unveiling of the company's monument.

Mr. Fogg, after telling the employees of the company's appre-

—To page 114

Monument and clock award presented by Atlas Powder Company to Blasting Supplies Works. Ned H. Dearborn presents certificate of National Safety Council's Award of Honor for Distinguished Service to Safety to Isaac Fogg, president of Atlas. In center is W. F. Reager, works manager.

Safety committee raising the Green Cross pennant indicating Council's Distinguished Service to Safety Award.



For Accident Prevention

**for Efficient
production**

You'll find the use of Stonehouse "Efficiency" signs most helpful in creating greater efficiency and improved employee morale.

STONEHOUSE STEEL SIGNS

A collection of various safety signs and banners. The signs include:

- A rectangular sign with a black background and white text: "HALF THE VALUE OF ANYTHING TO BE DONE IS DOING IT PROMPTLY".
- A rectangular sign with a white background and black text: "THINK CARELESS MEN NEVER ARE EFFICIENT".
- A rectangular sign with a white background and black text: "NOTICE STAY ON JOB UNTIL WHISTLE BLOWS".
- A rectangular sign with a white background and black text: "NOTICE -NO- LOAFING ALLOWED".
- A small rectangular sign with a white background and black text: "PLEASE TURN OFF LIGHTS".
- A rectangular sign with a black background and white text: "MATERIAL IS MONEY SAVE IT!".
- A rectangular sign with a white background and black text: "IF YOU ARE A SELF STARTER THE BOSS WON'T HAVE TO BE A CRANK".
- An octagonal sign with a black background and white text: "HELP KEEP THIS PLACE CLEAN".
- A large rectangular banner with a white background and black text: "SAFETY FIRST BE CAREFUL SAFETY FIRST HELP US MAKE THIS A BANNER YEAR FOR NO ACCIDENTS".

The logo for Stonehouse SIGN features a circular icon with a stylized hand inside, followed by the word "Stonehouse" in a large, elegant script font, and the word "SIGN" in a smaller, bold, sans-serif font below it.

SIGNS, inc. MANUFACTURERS • Stonehouse Bldg., 9th at Larimer

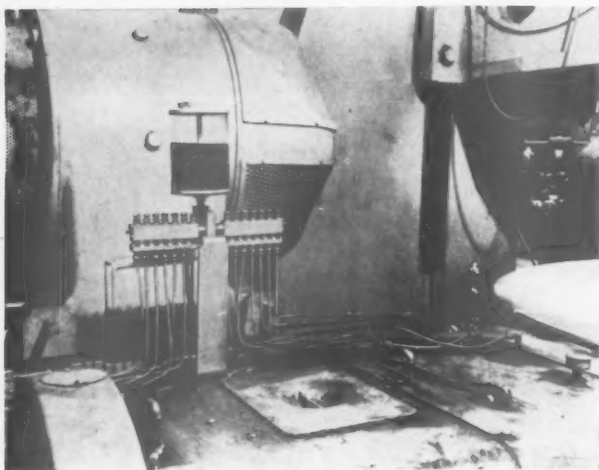
"Signs Since 1863"

Denver 4, Colorado



ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

Central Oiling Cuts Costs and Hazards



Three centrally located automatic oilers have replaced 30 individual oiling cups on this boring mill, resulting greater safety and economy.

INCREASED SAFETY for men and machines and a 74 per cent reduction in the lubrication cost of one 100-inch boring mill were achieved by the Nordberg Manufacturing Company of Milwaukee, Wis., by the replacement of 30 individual oiling cups with three centrally located automatic oilers. The solenoid operated oilers, made by the Oil-Rite Corporation, Milwaukee, reduced annual lubrication cost of one machine from \$281 to \$75, used only 50 per cent as much oil as manually-operated oiling cups, and reduced maintenance and operation requirements of the oilers by 90 per cent.

Under the old system, each of the 30 points on the boring mill had its own oiling cup that required daily filling by the machine operator who had to shut down machine and fill and turn on each cup individually. Over-oiling, uncontrolled flow of oil and failure

to shut off oilers at night wasted more than 31 gallons of lubricating oil per year. Failure to turn on oilers at the start of each operating cycle, on the other hand, tended to cause heavy wear and eventual burnout of bearings.

Spillage of oil over the machine created operating and fire hazards, while seepage to floor further endangered personnel safety. Another costly disadvantage of the oiling cups was a tendency to over-lubricate at the start and gradually starve bearings during remainder of operation, causing excessive wear and tear on bearings and reducing machine life and efficiency.

The 30 manually-operated individual oiling cups were replaced with three centrally located, solenoid operated automatic oilers, reducing the number of oiling units to maintain and operate by 90 per cent. All 30 points on the boring mill are fed from three

centrally located reservoirs that feed oil by gravity to 14, 8 and 8 outlets respectively.

Flow of oil to each point to be lubricated is regulated by easily adjustable individual valves at the outlets, completely eliminating waste, spillage and the possibility of starving and eventually burning out bearings. Not a single set of bearings has had to be replaced since the automatic oilers were installed.

Solenoids of the oilers are connected across the line of the driving motor so that their operation is started and stopped automatically when the motor is started or stopped. Machine need not be stopped for oiling, and transparent reservoirs and sight feed valves facilitate check of oil supply at all times. Solenoids are easy to wire and are available in all commercial frequencies and voltages, ac and dc, and can be operated continuously without overheating.

Transparent reservoirs are made for use at temperatures above 160 degrees F, and are large enough to hold a week's supply of oil.

Bringing People Together

—From page 39

Occasionally we still see great big posters and signs screaming "Don't be Careless," "Safety First," "Be Careful or Else," and we still hear foremen say: "It's all his own fault, I told him to be careful." Likewise we still hear men grumble: "If they'd spend as much money on fresh paint, on good lighting and real safeguards, as they do on these safety bulletin boards, we wouldn't get hurt so often." It is obvious that both management and labor want safety, but both are so busy blaming the other that they can't understand each other's attitudes.

Surely, where accidental injuries are costing so much, and where men are suffering so unnecessarily, there should be a concerted effort to root out this evil. The last issue of *Accident Facts*

—To page 76

KLEAR-VU SAFETY ACCESSORIES

*mean Safety
First—Last
and Always*

PERFECT RESISTANCE TO DUST, FLAME,
ACID, OIL AND WATER!

PRICED RIGHT!

STYLED ATTRACTIVELY, LIGHT IN WEIGHT,
EASILY CLEANED!

Thousands of leading safety engineers . . . men who know that minimum risk means maximum production . . . insist **only** on Klear-Vu Safety Caps, Safety Aprons and Safety Arm Guards to protect workers.

Maintain Peak Production—Protect **Your** Workers — Boost Morale — Reduce Overhead —

**WRITE TODAY FOR SAMPLES
AND PRICES!**



KLEAR-VU

PRODUCTS CO., INC. LINCOLN BOULEVARD, MIDDLESEX, N. J.

Bon Vivants at the Congress



DEVOTION OF MEMBERS OF NSC's food section to the products of their industry has been conspicuous at National Safety Congresses. In the Section's quarters atop the Morrison Hotel they really go for fancy groceries. In one of the accompanying pictures, last year's general chairman, Howard Bond, who comes from New Orleans where fine food is a tradition, is preparing his own special brand of coffee.

The other picture shows the more serious side of the Section's activities. Against a background of material prepared by the Visual Education Committee, Stanley Parsons, chairman of the committee, is presenting the trophy awarded for outstanding achievement on behalf of the Food Section to Len Walter, chairman of the Engineering Committee.

William A. Hipp, of C. Schmidt & Sons, Philadelphia, was the camera man.



Bringing People Together

—From page 74

came out with these astounding figures:

Accidents cost the United States \$7,300,000,000 last year.

That's a lot of money, even in these days of billion dollar budgets. In industry, 15,500 employees were killed and 1,950,000 injured. That means that industry was forced to add 2½ billion dollars to the cost of production to take care of its accidents. With such wanton, criminal waste depleting our capital and manpower, it is evident that we should quit shouting for something to be done—and actually get down to doing something about it—that is, implementing our words with deeds. And here is one place where a labor department can fit into the plan.

For such a plan of action, I suggest four steps:

1. Get the interested parties together under conditions where they will understand each other.
2. Get them jointly to analyze the problem from an objective, humanitarian point of view.
3. Help them to develop and implement specific plans that will strike at definite hazards.
4. The fourth point we'll leave for the present while we discuss the first three: getting both sides together, analyzing the problem, and developing a plan.

Some of you will say, "Old stuff! We've analyzed our accident problem and have formulated plans for the past twenty to thirty years. Every large plant in the country has done it. The National Safety Council has done it on an industry-wide scale."

Sure it has, and where it has been done, it has brought results. The steel industry did a wonderful job of reducing its accident-frequency through concerted action—the cement industry got phenomenal results from a nationwide plan—and so did other industries. True, their individual frequencies went down, but the national figures are still rising. They reached their own men only.

—To page 116



All 6 accident prevention features in...

EXCLUSIVE AIR-CELL CONSTRUCTION

LIGHTWEIGHT FLEXIBILITY! SLIP RESISTANCE!
 LONG WEARING! WATERPROOF!
 HEAT AND COLD INSULATION!
 ← FATIGUE-LESS COMFORT!

If these 6 accident prevention features are important to you, then always specify famous Vul-Cork or...

Vul-Cork Oil Resisting Neoprene Soles — the only soles made with exclusive AIR-CELL CONSTRUCTION.

Vul-Cork

Vul-Cork
OIL RESISTING
NEOPRENE

Vul-Cork oil-resisting Neoprene combines VUL-CORK'S famous comfort features with complete protection against excessive oils, acids, caustics, and hot surfaces underfoot. With Neoprene, lightweight VUL-CORK Soles remain flexible, do not crack in extreme cold, do not revert — or melt — on hot surfaces. The ideal all-purpose sole.

Free descriptive literature sent on request

**Vul-Cork SOLES WITH EXCLUSIVE
 AIR-CELL CONSTRUCTION, patented
 and made exclusively by**

THE Cambridge RUBBER COMPANY VUL-CORK SOLE DIVISION
 TANEYTOWN, MARYLAND

ASKED and ANSWERED

Assistance with problems of accident prevention and industrial health is offered by National Safety Council. All inquiries are answered by mail and a few topics are selected for publication.

Handling Creosoted Timbers

Question: We have a job involving the handling of treated timber so as to retain eight pounds grade one creosote oil per cubic foot of wood. Can you suggest preventative measures against injuries to the skin and eyes from this material, and treatment after exposure?

Answer: In the handling of creosoted timbers one of the most important items is that the skin difficulties are created very largely by creosote vapor which evaporates from the timbers during handling. Anything which can be done to keep the temperature of the creosoted timbers down will materially aid in the prevention of skin and eye irritation.

Some of the railroads, particularly in the south, have found that it is practical and very useful to spray creosoted ties with cold water from time to time during the day as they are being handled. This practice has considerably reduced the irritations from the handling of the timbers.

About the only other measures of any value in reducing this type of irritations are the use of protective clothing and of protective ointments on the skin. One such ointment is recommended in the pamphlet on Handling Poles. A good many of our members have found that ordinary yellow petroleum jelly is quite satisfactory and many of them will stoutly maintain that it is the most satisfactory protective ointment against creosote.

If vaseline is used it should def-

"Safe Crossing Day" Program



J. W. Lamberson, supervisor of safety, Atlantic Coast Line Railroad, addressing students of McClenaghan High School, Florence, S. C., where 1200 students assembled for "Railroad Crossing Safety Day" program.

RAILROAD SAFETY CROSSING DAY, sponsored by the Atlantic Coast Line Railroad and the City of Florence, S. C., was observed in that city on October 5. Participating in the event were many state and city officials and executives of the railroad.

The program began with a rally of 1,200 students in the auditorium of McClenaghan High School. At this meeting Principal George W. McCown reported a near tragedy just before school time when a student tired of waiting for a slow freight to pass and crawled over the cars.

Ben McDonald, of Wilmington, N. C., radio announcer and advertising executive, was master of ceremonies, sharing the platform with Charles Bagnal, president of the student body. Visiting and local officials were entertained at a

luncheon addressed by L. S. Jeffords, vice-president of ACL. James Lamberson, supervisor of safety for the railroad, directed the program, assisted by Sgt. Harry Stewart, director of public safety, Florence Police Department. Both school and luncheon programs were broadcast over local radio stations.

Special guests were Mayor James R. Schipman; L. T. Andrews, ACL general manager; C. R. McMillan, state highway commissioner; State Senator W. Clyde Graham; City Manager D. C. Barbott; Chief of Police Julian A. Price; Fred A. Schipman, chairman, County Board of Commissioners; T. J. Mitchell, secretary, Chamber of Commerce; M. M. Des Champs, chief, ACL property protection division.

initely be the yellow kind since it also protects the skin against the ultraviolet radiation of the sun and skin which has been exposed to creosote is particularly subject to sunburn.

So far as we can find out the only thing which will protect the

eyes is keeping the temperature of the creosote down to where it doesn't evaporate too much and the only personal protective measure of any value is the washing of the eyes at a fountain of cool water from time to time during the day.

—To page 124

Hazard Hunt

—From page 31

completed about noon and the delegates were driven to the nearby Pana Country Club, where an excellent luncheon had been arranged by Dale Coonrod, refinery office manager.

First feature of the afternoon program was the showing of two movies, "Pipeline on Wheels," produced by the duPont Company, and "Closed Book," produced by the Farm Bureau Mutual Insurance Companies of Ohio.

H. H. Beam, of the Socony Vacuum Oil Company refinery at East St. Louis, presided as chairman of the Tri-State group. Recommendations made by the visitors during the plant inspection were judged and first prize was awarded to John E. Engle, safety director at the Whiting refinery of Standard Oil Company.

Walt Whitlock opened the afternoon discussion of Off-the-Job Safety promotion by member companies, and practically every visitor joined in the program, reviewing experiences and asking questions of other participants. It was here that the exchange of ideas proved most promising, with each participant making notes of worthwhile suggestions.

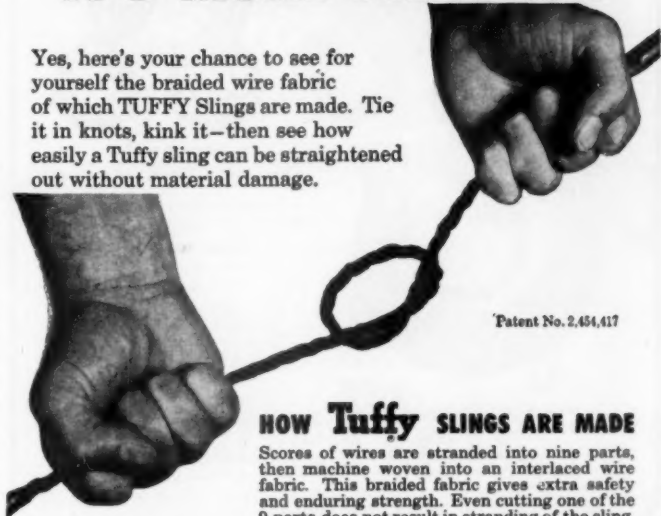
Although the intense interest carried the meeting far past the scheduled hour for adjournment, the visitors reached Decatur, 32 miles away, in plenty of time for the evening social hour and the dinner program that followed in the Victorian Room of the Hotel Orlando.

Principal speakers at the dinner were C. H. Becker, general manager of the Illinois Farm Supply Company, who discussed management's responsibility in a safety program, and George Harper, associate professor of safety education, University of Illinois, whose subject was "A New Look in Industrial Safety."

Others who registered for the day's program included R. D. Eberly, Standard Oil Company, Chicago; Victor Lambert and James E. Seymour, Illinois Farm Supply Company, East St. Louis; E. H. Fallin, National Petroleum

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Artificial Respiration

—From page 22

only methods. This diagram also shows very well what a large difference there may be in the effectiveness of the various methods when applied by the same operators upon different types of individuals.

In addition to giving a good air exchange it is desirable that a method of artificial respiration should be relatively easy to teach so that a large segment of the population may become reasonably proficient in its use. The magnitude of this problem will really begin to dawn upon you when you consider that all members of the armed forces are trained in artificial respiration and that a single large public utility may have 10,000 or more individuals trained at all times. It is also essential that it be fairly easy to apply so that a small individual may be able to apply it on a large

one for a long time. It is necessary that it be possible for one person to apply it since it is not at all certain that two or more trained persons will be available at any emergency in the first few minutes which are so overwhelmingly important in resuscitation.

With this in mind, Dr. Gordon's group conducted large scale training experiments on Naval personnel and Dr. Karpovitch and his group did a similar study on college students. They were able to train large groups quite rapidly in the push-and-pull methods and the trainees were able to successfully demonstrate the methods after the training and to carry on the maneuvers successfully for at least 15 minutes. They found that the hip-roll method was both harder to teach and harder to apply successfully than was the hip-lift method. The hip methods were generally harder to apply than the arm methods.

All of the groups studying the problem eventually came to the unanimous conclusion that the method of first choice from all points of view is the back-pressure arm-lift method suggested first by Holger Neilsen. As an alternative method they suggested, also unanimously, the hip-lift back-pressure method. This was because it was felt that there should be some method generally taught which would be effectively applied to an individual who was not breathing and also had a broken arm.

While these methods have not yet been standardized to the extent that the Schaefer method has they can be successfully applied by following these directions. Everyone should learn at least two of the three methods outlined here and preferably one of the hip methods and one of the arm methods.

The Sylvester is not considered as desirable as the other methods because it utilizes the supine rather than the prone position and there is more chance of the tongue or some other material obstructing the airway and causing failure of resuscitation. It is included here because it is very effective in skilled hands and is the easiest of the effective methods to apply. It is not recommended for general training. Learning the other two



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methods will be very easy for one who has previously learned the Schaefer method and will not be difficult for anyone. The general instructions are the same for both methods.

General

1. When a person is not breathing time is of prime importance. Do not wait and look for help, to move the victim to a more convenient place, to give stimulants, to loosen tight clothing, or for anything else. The important thing is to get the resuscitation started at once, so get to it.

2. Put the person in the prone (face down) position, with the head turned to one side and the cheek resting on the hands, or one hand.

3. Open the mouth and sweep your finger through to pull the tongue forward and remove any obstruction.

4. Begin artificial respiration and continue it without interruption until the patient is breathing spontaneously or is certainly dead.

5. If the subject begins to breathe on his own but still requires help, adjust your rate to his breathing rate; do not attempt to force your rhythm upon him.

6. When help is available or when the victim is breathing without help get the clothing loosened and supply warmth and other measures as needed. Do not interrupt the artificial respiration for any of these purposes.

Arm-Lift Back-Pressure Method

1. Carry out the first three steps under the general instructions. Note: In carrying out the Schaefer method it was quite necessary to raise the arms in order to have the chest at maximum possible expansion. In this method this is not necessary and the only reason for having the hand or hands under the face is to keep dirt out of the mouth. In soft ground this is very important.

2. Kneel at the head of the victim on one or both knees in the position shown in Figures 2 and 3.

3. Place your hands on the victim's back just below the shoulder blades and rock forward to exert a steady gentle pressure on the back to force air out of the lungs. Keep your elbows straight and let the weight of the upper part of your body do the work.

4. Release the pressure quickly but without giving any extra push at the release.

5. Rock backward running your hands along the victim's back and arms till you pick up his arms at a point just above the elbows. Continue rocking back, taking the arms upward and toward you. Use just enough effort to feel resistance and tension in the victim's arms. This lifts and expands the chest to permit air to enter. Figures 4 and 5.

6. Rock forward again, placing the victim's arms on the ground and sliding your hands down the arms and back until they come to rest again at the proper pressure point.

7. Repeat the cycle rhythmically at a rate of 10 to 12 complete cycles per minute. Each phase of the cycle should take about 1½ seconds. The rocking motion helps to keep a steady rhythm. The position may be changed from one knee to the other or to both during the operation but it should be done without breaking the rhythm.

Hip-Lift Back-Pressure Method

1. Carry out the first three general instructions.

2. Place one knee on the ground beside the subject's hip. Straddle him and place the other foot on the ground near the other hip. Figure 6.

3. Place your hands on the subject's back just below the shoulder blades with the thumbs about two inches apart along the spine. Lean forward with your elbows straight to let the weight of the upper part of your body put a steady gentle pressure on the victim's back.

4. Release the pressure quickly but without any extra push at the release.

5. Place your hands under the subject's hip bones where they touch the ground—not under the waist—and lift the hips vertically about 4 to 6 inches. Figure 7.

6. Gently replace the hips on the ground. Do not drop.

7. Repeat the cycle 10 to 12 times per minute. It is possible to change knees but do not break the regular rhythm of the cycle.

8. Something under the hips to give a better and easier grip is a help with this method. Figure 8. If a belt, towel or similar object is available use it but do not waste time looking for something. Do not put such an adjunct under the waist. It must be under the hips.

This method is very fatiguing for the operator. It is recommended only for use in situations where the back-pressure arm-lift method cannot be used.

Sylvester Method

This is an old method which has never been very popular in this country although it has been widely used in European countries. It is especially desirable for a small operator because of the ease of application although it does take more skill to be applied safely than do the preceding two methods. For this reason it is not recommended for general application.

1. Place the victim in the supine position.

2. Quickly run the finger through the mouth to clear out any foreign matter and bring the tongue forward.

3. Place the head with one cheek down and, if the tongue falls back and chokes the subject tie it forward with a handkerchief or string.

4. Kneel at the victim's head. Fig. 9.

5. Take his hands in yours and place them on his chest.

6. Rock forward with your elbows

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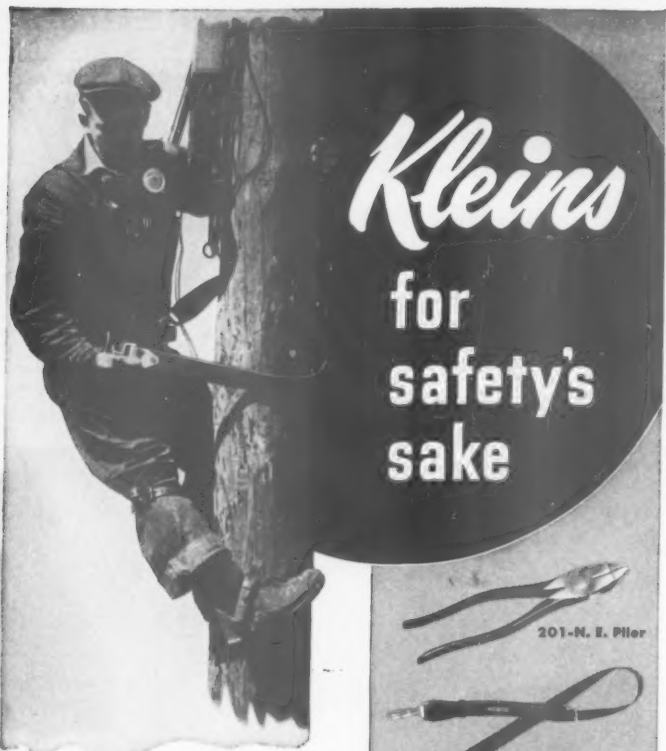
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straight to let the weight of the upper part of your body produce steady gentle pressure on his chest.

7. Rock back, carrying his arms up and back until they are about even with your hips and you feel a gentle tension in the shoulders. This raises and expands the chest. Figure 10.

8. Repeat this cycle 14 to 16 times per minute.

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Know Your Men!

—From page 25

on his own authority, he can report the situation to his superior.

There are ways in which the foreman can make good use of psychological techniques, even though he may not call them by that name. He may call the process "common sense," "good foremanship," or "friendliness and interest," but it carries him to the same goal—a better understanding of his people and the ways in which their personal problems affect performance on the job, especially safety performance.

Once fully acquainted with each man, he is in a position to recognize more accurately the conditions and situations which typically precede accidents, also the emotional and physical changes which are indicators of trouble. The action he takes and the promptness with which he takes it may well mean the difference between a good safety record and a poor one.

Income: The amount of money that no matter how large it is, you spend more than.

Got a better definition?

Safeguarding Research

—From page 19

coming onward, may lead into strange pathways.

Accident prevention, fire prevention, and industrial hygiene can make real contributions in four directions:

1. Safeguarding of personnel.

The most important part of research occurs in the minds and hands of the men and women who are conceiving and making contributions to human knowledge, hence, the protection of our personnel is our prime objective. Between the time a new idea is conceived and brought to a state useful to the development engineer, several people will have aided in the work.

Skilled toolmakers, mechanists, glassblowers, assembly workmen, carpenters, painters, electricians, plumbers—to mention only a few of the many talents required—contribute their bit to giving the abstract idea a physical form. As a result, personnel of many different talents are exposed to hazards early in the work.

2. Protection of costly experiments and apparatus.

Second to safeguarding of personnel, the protection of vital records, equipment, and apparatus is of great value to destruction of elaborate and costly experimental setups may require expenditures of large amounts of money and diversion of effort which could well be used more efficiently on creative, rather than reconstructive, work.

3. Reduction of non-productive time.

Depending on the nature of the item under consideration, months to years may pass before research has progressed far enough to pass the item to the development laboratory. Much of this delay is inherent in research, since new apparatus often must be designed and built before the necessary experimental data may be obtained. Any delay caused by accidents to personnel or equipment increases this time and decreases the over-all efficiency of the effort.

4. Building safety into the product.

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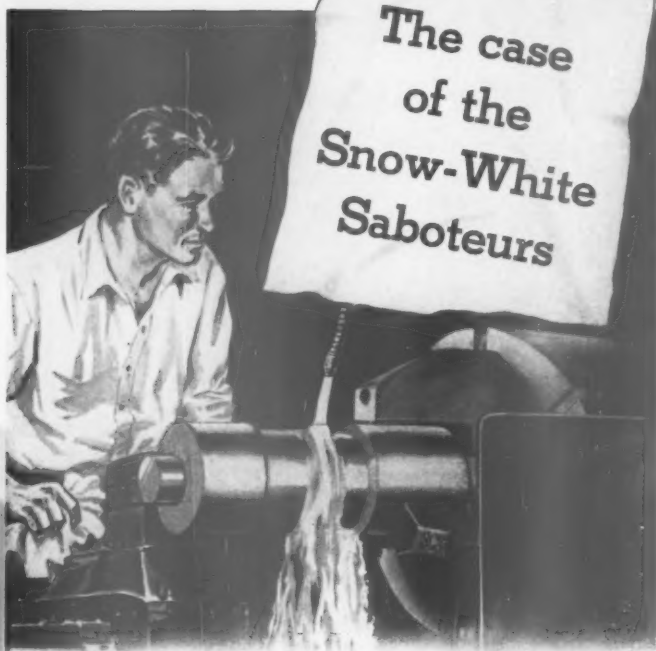
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too early, even in the early research stages, to think in terms of the safety aspects of the final consumer form of the product. As Mr. O. G. Wedekind of Underwriters' Laboratories pointed out in *Electrical Engineering*, November 1950, (Safety Testing of Electronic Equipment):

Consideration of the safety viewpoint should be a routine part of development and, if kept in mind, can result in a far better product. Designing products to safety standards throughout the developmental stages inevitably will result in less expense than if the product must be revamped for safety reasons when development has been completed.

Here is a phase of safety in research which will perhaps pay the biggest dividend of all—safety to the public, the ultimate consumer.

Evaluating Projects

Let us now consider how to evaluate a typical research project from the viewpoint of safety.

First, what has been the previous experience with this line of investigations?

If the research is entirely new, of course, there is absolutely no previous experience on which to draw. However, usually at least some phase of the work has been previously investigated to a limited extent. Unfortunately, technical literature in this country has relatively little to offer when safety considerations are involved. Occasionally, references will be found which furnish clues to difficulties others have had. Then, especially when chemicals are involved, the supplier or manufacturer will supply detailed safety precautions, or else frankly admit there is no previous experience.

By writing to insurance, industrial hygiene, and fire prevention sources, additional information may be gained. This approach is time-consuming and often discouraging, but it sometimes pays high rewards.

Second, what are space requirements and what equipment is involved?

In this classification, we examine the whole over-all activity in terms of space, hazard, and compatibility. Whenever possible, sufficient space should be allotted so work can proceed without serious

encroachment on work in adjacent area. All personnel should be assured of an adequate exit from any room. Nothing should be placed in the work area which will interfere or endanger the personnel or any adjacent personnel.

For example, if large quantities of flammable liquids are needed for a particular project, the main supply should be kept outside the work area (preferably in a bulk storage building). Sufficient quantity for a shift or a day should be brought into the area in approved cans. By this procedure, the risk is held to a minimum.

Third, what major equipment is involved and how safe is it?

If the operation involved equipment with (a) unusual operating conditions, or (b) holding unusual stresses, a realistic appraisal of the pieces of equipment should be undertaken. For example, all metal pressure equipment (in which pressures of over one atmosphere are involved) should be tested, if possible, before use, as specified in ASME Code for *Unfired Pressure Vessels*.

Ladders should be carefully inspected when received, either left unpainted or given a clear varnish, and checked for cracks and spits at frequent intervals. The ASA Code A 14.1—1948 should be referred to for further details. Portable metal ladders should not be used where there is even remote possibility of contact with an electric wire. Records indicate that such contacts may be fatal. The same type of cautious, analytical approach should be used with all equipment.

Fourth, what are the exposures of individuals?

In the final analysis, the exposure of a human being is the all-important problem in accident prevention, whether in research or production. The nature of the exposure should be clearly understood if possible. In research, however, the exact exposure may not be known. For example, if a new chemical is involved, its physiological properties may not yet be clearly understood. As a result, it is highly important that any unusual symptoms be noted and reported—even a headache or a

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skin irritation may be highly significant.

Mechanical exposure is usually more definite and understood. For example, a work area in which needed guards were not placed on machinery would be sub-standard.

Electrical hazards are quite well established in most research areas, and definite rules formulated and agreed to in reducing the possibility of accidental contact. For example, three-prong plug-in connections (one prong of which is a ground) are widely used to insure that the cases of portable tools, ovens, and other equipment are adequately grounded. Openface switches, rheostats, and other exposed surfaces have been discouraged in recent years.

Radiation has achieved so much publicity since the advent of Atomic Age in 1945 that exposures to it are probably the most carefully supervised of all industrial exposure. While it is true that gross amounts of radiation may be serious, it should be recognized that man has lived with "radiation" for thousands of years. The cosmic radiation, that is, that continual bombardment of our earth from outer space, is not an insignificant matter.

In studying exposures, it is important to understand where our human knowledge stands in relationship to what is involved. For example, there are carefully tabulated tables indicating "maximum allowable concentrations" for many substances. These may guide us, but they tell us nothing about how high a concentration a particular individual may take for a few hours without harmful effects.

In such cases, we must admit we are at the limits of human knowledge. To cite another example, we are told that noise level of 90 decibels is the upper tolerance limit, beyond which definite irritation may result. How many hours 100 decibels may be tolerated before we note irritation is not known.

As a result we must treat each exposure on its own merit, and take into our calculation the human equation, complex though it may appear. It is easy to forget that the human animal is an ex-

tremely intricate and closely coordinated machine.

The Continual Change

The one primary characteristic of research, if one could be singled out, is change. Change is the order of the day—every day and every night. A concept, idea, experimental setup which showed promise yesterday may be antiquated and discarded tomorrow. Keeping up with research is really a matter of keeping abreast of changes.

In a small research group, checking on the safety aspects of the frequent changes is not too difficult a task. Usually someone within the group, with carefully delegated responsibility, can question changes as they occur. In large research groups, however, changes are more difficult to follow. Some practical approaches to this problem are listed:

1. Frequent casual "surveys" in which the prime purpose is to look for changes.

2. Close cooperation of research personnel, so they will ask for safety inspection of new facilities of their own free will.

3. Copy of purchase orders for all incoming substances, apparatus, equipment, and services. This is an excellent method of spotting potential hazards before they arrive.

4. Attendance at technical meetings and seminars, no matter how technical. Frequently new understanding of the hazards of the research will be revealed at such meetings.

5. Scanning of publications, reports and papers for items bearing on safety.

A combination of these methods may be used to keep abreast of the constant change.

Constructors Seek 20% Accident Reduction

THE NATIONAL CONSTRUCTORS ASSOCIATION, an organization composed of large industrial construction companies operating on a national basis, have announced a goal to reduce accident rate by 20 per cent.

Member companies achieving this goal will be awarded certificates of achievement. The contest period will be from October 31, 1951 to October 31, 1952.

To help achieve its goals, the Association has announced it will publish a monthly Safety News Letter.

This Safety Tread IS CAST TO LAST

it's **FERALUN**



A special cast iron matrix with a diamond-hard abrasive imbedded in the walking surface. That's the Feralun secret of safety. The abrasive, *not* the scoring, provides secure footing—wet, oily or dry. ● That's why you will find Feralun underfoot, wherever traffic is heaviest. For over a quarter of a century, millions of feet of Feralun treads, floor plates and thresholds have been used in subways, railway cars, buses, factories, office and public buildings, even on battleships. This extra-safe, extra-durable flooring will last the life of the structure. Don't slip up on safety! Look into the facts and figures on Feralun.

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BULLETIN 44 Am

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ABRASIVE** Safety Floorings

AMERICAN ABRASIVE METALS CO.
460 COIT STREET, IRVINGTON 11, NEW JERSEY

Safety's HONOR ROLL

Current records of operation exceeding 500,000 man-hours without a disabling (lost-time) injury are invited for this department. For records of one year or more a minimum exposure of 300,000 man-hours is acceptable. Records should be continuing or terminated within one year of date of reporting.

Allied Kid Co.

Specialty New Castle Division—February 8, 1950 to January 4, 1951; 1,116,707 man-hours.

Celanese Corp. of America

Staunton, Va.—March 7, 1950 to October 1, 1951; 1,514,426 man-hours; continuing.

Celanese Lanese Corp., Burlington, N.C.—September 20, 1949 to September 29, 1951; 1,049,987 man-hours; continuing.

Bishop, Texas—September 20, 1950 to October 1, 1951; 1,530,352 man-hours; continuing.

Clark Equipment Co.

Buchanan Plant, Buchanan, Mich.—December 1, 1950 to June 18, 1951; 2,351,966 man-hours. June 19, 1951 to October 1, 1951; 1,406,778 man-hours; continuing.

Axle Div., Buchanan Plant—January 1, 1951 to October 1, 1951; 723,936 man-hours; continuing.

Foundry Div., Buchanan Plant—February 1, 1950 to October 1, 1951; 774,874 man-hours; continuing.

Inspection Div., Buchanan Plant—January 19, 1950 to October 1, 1951; 351,900 man-hours; continuing.

Housing Maintenance, Buchanan Plant—February 1, 1947 to October 1, 1951; 306,000 man-hours; continuing.

Final Operations, Buchanan Plant—October 1, 1950 to October 1, 1951; 318,440 man-hours; continuing.

Line 3 Housing Div., Buchanan Plant—July 1, 1950 to October 1, 1951; 326,640 man-hours.

Display Board Does Double Duty



THIS LARGE DISPLAY BOARD, in the main plant corridor of the Visking Corporation, Chicago, showing types of extinguishers used in the plant, commands attention by its size and prominent location. Standing beside the board is Francis C. Black, safety and fire protection supervisor.

To get the most benefit from the display, the corporation made further use of it in the fire protection program. A photo of it has been published in the company magazine with an announce-

ment that on two occasions the company made a random selection of employees and quiz those selected until a man and woman could be found who knew the basic facts outlined on the board.

The winners received a pair of safety shoes and their photographs were in the company magazine.

It should be noted that not all approved types of extinguishers are shown in the display. Vaporizing liquid and dry chemical types are also useful for certain exposures.

Peerless Pump Div., Indianapolis, Ind., Plant—November 28, 1950 to July 26, 1951; 593,672 man-hours.

Consolidated Vultee Aircraft Corp.

Fort Worth Division, Fort Worth, Texas—July 23, 1951 to August 22, 1951; 5,608,573 man-hours.

Ferro Enamel Corp.

Cleveland, Ohio Operations—November 10, 1950 to May 10,

1951; 624,000 man-hours; continuing.

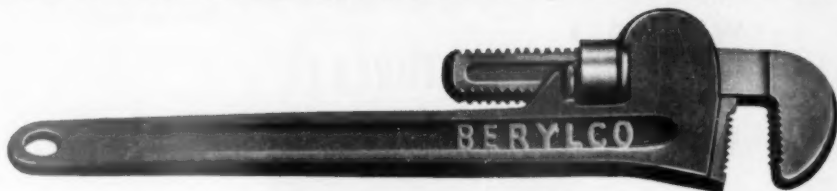
Food Machinery and Chemical Corp.

Westvaco Chemical Div., South Charleston Plant—September, 1950 to February, 1951; 1,338,382 man-hours.

Westvaco Chemical Div., San Francisco Plant—From June 13, 1950; 400,000 man-hours; continuing.

—To page 92

This wrench protects your plant!



**BERYLCO
SAFETY TOOLS**
resist sparking...
are noncorrosive
and nonmagnetic

Berylco Safety Tools, made of high-performance beryllium copper, have hundreds of applications in...

Petroleum Industry—pipe lines, pumping stations, tankers, refineries, distributing centers.

Chemical Plants—process equipment, storage tanks, tank cars, or wherever corrosive agents affect steel tools.

Maritime Service—fuel lines, or wherever resistance to excessive salt-water corrosion is needed.

Explosives Plants—pipelines or places where explosives are handled or stored.

Gas Industry—gas wells, pipe lines, gas-manufacturing plants.

Municipal Maintenance—underground gas and sewer lines.

General Industry—fuel lines or pipe lines and tanks containing solvents, and wherever inflammable liquids, gases and dusts are stored or handled.

SEE YOUR LOCAL JOBBER TODAY!



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You can depend upon Con-Sol Products for every maintenance problem—cleaning, insect or bacteria control, floor upkeep, health and safety.

Write Con-Sol technicians without obligation, about any specific health hazard or unusual condition in your plant. Many years of experience and over a hundred industrial housekeeping products are available to solve your every maintenance need.

Helpful Maintenance
Chart On Request



Tested and approved
by Underwriters Laboratories

Skidproof gives any type of floor—wood, linoleum, rubber, asphalt, tile or terrazzo—a hard, durable slip-proof surface that protects against the toughest kind of wear. It's easy to apply, easy to clean. It's quick-drying, odorless, economical—one gallon covers 2000 square feet!

Skidproof overcomes the slipping hazards of ordinary wax—makes rubber burns, stains and surface damage easy to get off—won't crack or check—won't discolor any floor surface. It's the finest surface finish available to keep floors shining, beautiful and safe!



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WITH ALL**

5 SUPERIOR FEATURES!

1. STRONG electro-forged construction for easy installation.

2. MAXIMUM OPEN AREA for light and air.

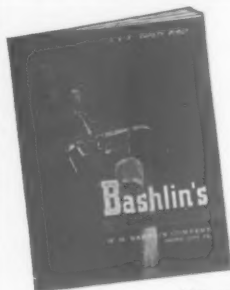
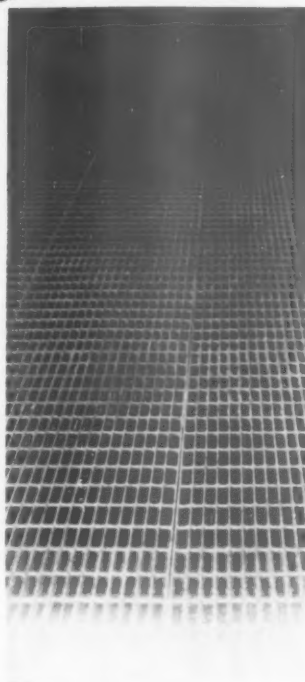
3. EASY TO MAINTAIN... paint reaches entire surface.

4. SELF-CLEANING, no sharp corners to clog.

5. SAFE footing at all times with twisted cross bar.

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OF BLAW-KNOX COMPANY**
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Bashlin's new bulletin giving full details on Linemen's Safety Equipment is ready for you... a complete line from which to choose, and every one a champion. Write today!

W. M. BASHLIN CO. Grove City 3, Pa.

Honor Roll

—From page 90

General Foods Corp.

General Foods, Ltd. Plant, Montreal, Canada—March 1949 to August 1951; 1,119,622 man-hours.

Hughes Gun Co.

Dickson Gun Plant—February 15, 1951 to September 17, 1951; 1,107,627 man-hours.

Line Material Co.

Pennsylvania Plant, East Stroudsburg, Pa.—April 24, 1950 to October 1, 1951; 759,328 man-hours; continuing.

The Lord Baltimore Press, Inc.

Baltimore, Md.—10 months; 805,924 man-hours; continuing.

F. H. McGraw & Co.

On construction of Atomic Energy Plant, Paducah, Ky.—June 6, 1951 to August 13, 1951; 2,513,821 man-hours.

National Distillers Products Corp.

K. D. & W. Plant, Louisville, Ky.—October 20, 1949 to September 25, 1951; 2,686,399 man-hours.

Republic Steel Corp.

Strip & Bar Mills, Youngstown District—As of October 3, 1951; 1,000,995 man-hours; continuing.

**St. Regis Paper Co.
(Canada) Ltd.**

Montreal, Quebec Mill—As of September 30, 1951; 500,541 man-hours; continuing.

**Trinidad Leaseholds Ltd.,
Trinidad, B.W.I.**

Refinery Div.—April 27, 1951 to June 5, 1951; 1,183,184 man-hours.

Electrical Dept.—March 19, 1948 to August, 1951; 1,525,743 man-hours; continuing.

Trinidad Leaseholds Police Force—June 20, 1946 to August 28, 1951; 1,372,117 man-hours.

Oil Stocks Dept.—September 12, 1946 to August 31, 1951; 1,160,267 man-hours; continuing.

Instrument Maintenance Dept.

—March 12, 1944 to September 3, 1951; 1,000,000 man-hours; continuing.

Refinery Laboratory — December 20, 1948 to August 31, 1951; 883,876 man-hours; continuing.

Fire Dept.—July 1, 1940 to August 31, 1951; 668,252 man-hours; continuing.

Main Stores—March 29, 1950 to August 31, 1951; 667,896 man-hours; continuing.

Eastern Topping & Rerun Plants —September 5, 1944 to August 31, 1951; 614,025 man-hours; continuing.

Roads Clearing Drainage & Earthwork Dept.—October 2, 1948 to April 27, 1951; 547,773 man-hours.

Garage—January 27, 1949 to August 31, 1951; 546,509 man-hours; continuing.

United States Dept. of Agriculture

Forest Service, Regional Office, Atlanta, Ga.—September 1949 through September 1951; 516,000 man-hours.

United States Steel Co.

Gary Steel Works, West Mills Maintenance—June 24, 1950 to September 3, 1951; 2,062,788 man-hours.

Gas Engines Dept.—February 28, 1948 to September 12, 1951; 2,003,059 man-hours.

Metallurgical Dept.—November 4, 1943 to September 20, 1951; 4,952,601 man-hours.

Mason Dept.—August 31, 1949 to September 26, 1951; 4,325,283 man-hours.

McDonald Mills—August 3, 1951 to October 6, 1951; 1,500,000 man-hours.

South Works, Locomotive Repair Shop—April 30, 1951 to October 15, 1951; 1,228,636 man-hours.

Utah Oil Refining Co.

Refining Dept.—May 24, 1951 to October 15, 1951; 444,014 man-hours; continuing.

Forge Div., Plant No. 2, Jackson Plant, Jackson, Mich.—June 1, 1949 to October 1, 1951; 986,398 man-hours; continuing.

Falahee Plant, Jackson, Mich.—February 1951 to October 1, 1951; 521,139 man-hours.



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● The Bradleyman draws upon the experience gained by serving an ever-widening group of Bradley users for over 30 years. His practical suggestions for washroom layouts and use of Bradley group-washing fixtures can help you find the most economical way to provide adequate facilities in a minimum of space.

Bradley 54" Washfountains accommodate 8 to 10 persons simultaneously—replace 8 to 10 single-person basins. Piping connections are reduced 80% and one sprayhead replaces as many as 20 faucets. Maintenance and water consumption are reduced sharply. Foot-control stops contagious washbasin contacts and promotes a new high in employee health and safety. **BRADLEY WASHFOUNTAIN CO.**, 2237 W. Michigan Street, Milwaukee 1, Wis.

Where space is limited, Bradley semi-circular Washfountains will meet requirements. Each serves 4 to 6 persons. Foot-control and self-rinsing bowl provide the utmost in sanitation and prevent water waste.



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and how it watches the watchman! A tamperproof system that keeps a constant check on watchmen's activities. In use all over the world... So effective that users earn reduced insurance rates! The CHICAGO WATCHCLOCK system thereby quickly pays for itself while it gives you protection against fire, theft and sabotage.



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Gentlemen: Send us your folder of details, and prices on the various CHICAGO Watchclock models.

"The first—and still the first!"

My name.....

Firm name.....

Street.....

City.....

State.....

Dept. 824-828, Jackson Plant—July 1, 1950 to October 1, 1951; 601,920 man-hours; continuing.

Tool Division, Jackson Plant—January 1, 1950 to October 1, 1951; 596,574 man-hours; continuing.

Inspection Div., Jackson Plant—January 1, 1950 to March 1, 1951; 508,960 man-hours.

Maintenance Div., Jackson Plant—January 1, 1950 to April 30, 1951; 351,648 man-hours.

Battle Creek Plant, Battle Creek, Mich.—December 1, 1949 to February 28, 1951; 3,876,511 man-hours. May 1, 1951 to August 31, 1951; 1,640,564 man-hours.

Completes 10,000th Accident Free Day

One of American industry's most phenomenal safety records reached a new milestone recently as the 65 employees of Republic Steel Corporation's printing and stationery department completed their 10,000th consecutive day free of lost-time accidents.

Translated into years, the 10,000-day perfect safety mark equals 35 accident-free years, dating back to the department's conception in 1916. The print shop is located in Republic's Truscon Steel Company plant in Youngstown.

National Safety Council figures reveal how remarkable this safety record is. Last year, according to Council tabulations, the printing industry posted an accident frequency rate of 8.7 per cent. That rate reflected less than nine lost-time accidents for every million man-hours worked.

On that basis, Republic print shop employees—thanks to their splendid record—have benefited by "not having" more than 30 lost-time accidents since the department was created 35 years ago.

George Job, Republic's veteran printing and stationery manager, estimates that the department has worked perhaps 4,000,000 man-hours in the course of its 35-year history. Accurate man-hour records are not available for the years prior to the formation of Republic Steel Corporation in 1930, but since that time the de-

partment has accumulated more than 3,000,000 man-hours, according to Mr. Job.

"This department is the largest job print shop in the Mahoning Valley, and so far as I know the largest between Cleveland and Pittsburgh.

"We've averaged 65 employees each year for the past 15, and last year we worked 142,913 man-hours. We shipped 905 tons of printed material during 1950."

E. J. Magee, Republic's Director of Industrial Relations, added that the print shop's record is "outstanding."

"We feel that the employees of this department have accomplished a marvelous feat. And, we recognize that only the day-to-day attention to good safety practices and precautions have made this record possible."

History of Republic's print shop dates back to 1916, when it originated at the Truscon Steel Company. In 1935, five years after the organizing of Republic Steel Corporation, it was combined with a similar department operating since 1918 at the Trumbull Steel Company at Warren.

The Trumbull printing department brought with it in 1935 its own perfect safety record dating back to 1918. The combined operations were settled in the Truscon plant in 1940, where they remain to this day.

When the two departments were merged, J. C. Danielson, manager of the Truscon shop, was appointed manager of the combined operations. Mr. Job, previously manager of the Trumbull print shop and later Mr. Danielson's assistant, assumed the managerial duties in 1947.

George Williams and J. J. Miller are assistant managers at this time.

Mr. Job and two other veteran employees have been with the printing and stationery department for the entire period of its accident-free existence. The others are William R. Evans, who joined the company (then Republic Iron and Steel Company) in 1911, and Dan Reichard, who first went to work in the old Truscon shop shortly after it was opened.

The Industrial Commission of Ohio, in August, 1950, presented



new



Unigoggle

A One-Cup Headrest Goggle

made expressly for Gas Welding, Flame Cutting and Brazing

• **GOOGLE**, with its large ventilated inside area, is lighter, cooler, easier to wear. Its one-piece molded plastic is strong, flame resistant, non irritating to the skin. It bears lightly, yet firmly, against cheeks and forehead, where its good fit excludes light and heat rays. It may be worn over regular prescription glasses or safety spectacles.

• **LENS**, available in Federal Specification shades 3 through 6, is of standard 2 by 4 1/4" size, protected by a cover glass. New spring clip fastening makes the lens easy to replace; no tools are needed.

• **HEADREST**, with cork sweatband for comfort, is of light, easy to clean plastic, and is readily adjusted to any head size. Spring, concealed within telescopic arms, holds goggle snugly against the face. Hinged from opposite sides, weight is evenly distributed.



JACKSON UNIGOGGLE type W-60, shown above, has plastic headrest, telescopic arms.

JACKSON UNIGOGGLE type WR-60, shown at left, has same eyecup and choice of lens shades, but is held against the face by an adjustable, elastic headband.



Goggle fits cheeks and forehead snugly, gently, with wide rim for comfort



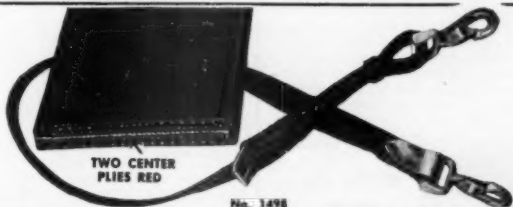
To raise, pull up and forward in one quick movement... takes one second



Put back on guard again, goggle protects this welder quickly, comfortably

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NEW! BUHRKE NYLON SAFETY STRAP—ULTRA FLEXIBLE

Light weight, SAFE, uniform flexibility—even at —25° F.—strap remains soft and pliable; in 2 styles, No. 1658 with slide buckle, and No. 1659 (above) with tongue buckle. Made of NYLON FABRIC, 1 1/2" wide, 6 ply. Full cross section breaking strength over 3,000 lbs.; buckle hole strength over 400 lbs. SAFE to use until RED PLY appears. Complete controlled fabrication of strap in our plant. Write...

R. H. BUHRKE CO., 4701 W. Grand Avenue, Chicago 39, Illinois

Republic's printing and stationery department with a special "Merit Award" when it reached 9500 accident-free days in April, 1950. Since then, nothing has happened to mar the record.

Laboratory Celebrates 22-Year Safety Record

TOP SAFETY HONOR conferred by the Du Pont Company, its Board of Directors' Award, was recently received for the fifth con-

secutive time by the company's rubber laboratory at Deepwater Point, New Jersey. In the entire 22 years of its operation, the company announced, the laboratory has never had a lost-time injury.

The laboratory currently employs 100 people and has rolled up some 2½ million injury-free man-hours. Statistics of the National Safety Council show the national average for chemical laboratories to be two disabling injuries per million man-hours.

In point of injury-free calendar days since start of operations, the rubber laboratory's 22-year record holds top honors among all units of the company, including office buildings as well as manufacturing units and other laboratories. In point of man-hours, the laboratory currently ranks seventeenth among all company units.

Chief factor in achieving its record, according to a Du Pont safety supervisor, has been the activity of the laboratory's safety committee. This is a committee of four or five employees who each month check the entire laboratory for unsafe practices. Every inch of the building is inspected. All hazards are reported to management, and management conscientiously investigates and enforces the committee's recommendations. To keep fresh eyes looking for trouble, the entire committee, except for one permanent member, is changed each month. Eventually, every employee of the laboratory serves on it.

In addition to spotting specific unsafe practices, the committee has proved to have two important corollary values: Service on the committee creates safety consciousness. And management's firm support of the committee creates an atmosphere in which everyone treats safety as serious business.

New Standard on Noise Terminology

HOW DOES FACTORY NOISE affect the worker? How can it be diminished? At what point does it have a depressing effect upon the worker? These questions were answered to a large part by intensive research work done during and after World War II in the field of psycho-acoustics. The answers are reflected in the latest edition of the American Standard *Acoustical Terminology*, Z24.1-1951, recently approved and published by the American Standards Association.

So many fundamental changes in concept have taken place in this field since the 1942 edition, that practically the entire section on hearing and speech had to be rewritten and expanded.

Terms such as "threshold of



HILD Heavy-duty PORTABLE VACUUM IS ALWAYS READY FOR BOTH!

Snap the switch and the HILD Vacuum is ready for any job! No filter to change for wet pick-up...no risk of damaging the machine because a careless or untrained operator has neglected or forgotten the "preliminaries." When used to "sweep floors with air" the Hild Vacuum removes all loose dirt...from cracks and low spots too. No cloud of dust...no sweeping compound needed. When teamed with the Hild Floor Machine for scrubbing floors, the HILD Vacuum just as thoroughly picks up dirty liquids...leaves the floor clean, dry and slip-safe. Floor tool attachments swivel to reach easily under, between and around machines. Other attachments equip the HILD Vacuum for dozens of clean-up jobs in shop or office.



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Independent Cooling System protects New HILD "Bi-Pass" Motor against moisture in Vacuum Air-Stream!

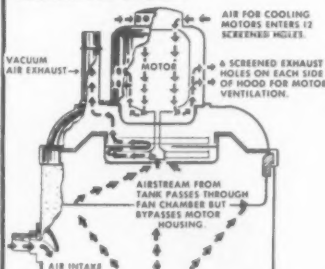


Diagram shows how specially-designed HILD "Bi-Pass" Motor is cooled independently of vacuum air-stream. Thus, the motor cannot be damaged by moisture or dust picked up by vacuum...will not overheat.

Ask for free demonstration.

audibility" and "threshold of feeling" have been completely revised to bring them into agreement with recent experimental results. Threshold of audibility is no longer defined merely as the "minimum value of the sound pressure of a sinusoidal wave of that frequency which produces a pitch of sensation." The new definition still recognizes use of the sinusoidal wave, but the concept has been expanded so that other methods may be used as long as the "characteristics of the signal, the manner in which it is presented to the listener, and the point at which the sound pressure is measured" are specified.

The enormous use being made of acoustical concepts in industry has been taken into consideration in the standardization of the term "mel" as a unit of pitch and "sone" as a unit of loudness. Using these two units, the decrease in the amount of noise in a given room can be calculated on an arithmetical instead of a logarithmic scale. This eliminates the use of the decibel and makes it

easier for the layman to understand the amount of noise reduction accomplished. For instead of saying it was reduced from 93 to 90 db, the figure can now be expressed as being reduced from 4,000 to 2,000 sones.

Other terms discussed in this section are: pitch, loudness, loudness level, phon, loudness contours, auditory sensation area, level above threshold, masking, air conduction, bone conduction, hearing loss, hearing loss for speech, percent hearing loss, percent hear-

ing, audiogram, masking audiogram, difference limen, aural harmonic, electrophonic effect, articulation, syllable articulation, sound articulation, vowel articulation, consonant articulation, discrete, discrete sentence intelligibility, instantaneous speech power, peak speech power, average speech power.

Development of this standard was sponsored by the Acoustical Society of America in cooperation with the Institute of Radio Engineers, under the procedures of the

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JB48 — Safe Driver Awards

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- ★ ANTISEPTIC ★ GREASELESS
- ★ EXCLUDES AIR

Combines air exclusion, antiseptic, local anesthesia. Non-greasy, water soluble base is the perfect answer to a painlessly removable first aid for burns.



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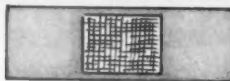


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Patch Dressings
1 1/2" square



*Band-Aid Elastic
Adhesive Bandage
1"x3"



*Band-Aid
Spot Dressings
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*The Trade Mark of Johnson & Johnson

- Elastic • Waterproof • Flesh color
- Vent hole for aeration • Sterile



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BULLETIN
NO. 319



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slipperiness**

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SAFE-T-SAN**

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311 N. DESPLAINES ST., CHICAGO 6, ILL.

American Standards Association. Experts in all phases of acoustics worked on the standard. In addition to the section on hearing and speech there are sections on: sound transmission and propagation; transmission systems and components; ultrasonics; music; recording and reproducing; shock and vibration; underwater sound; general acoustical apparatus, and general and architectural acoustical terms.

Copies of the American Standard *Acoustical Terminology*, Z24.1-1951, may be obtained from the American Standards Association, 70 East 45 Street, New York 17, at \$1.50 per copy.

Revise Code for Mine Electrical Equipment

A REVISED EDITION of the American Standard Safety Code for *Installing and Using Electrical Equipment in and about Coal Mines*, M2, 1-1951, has been approved by the American Standards Association. The increased use of mechanical mining, loading, and haulage equipment in recent years has changed the operating conditions to such an extent that a complete revision of the 1926 standard was necessary.

Safeguards for reducing fire, explosion, electric shock and other hazards in and about coal mines are incorporated into this edition. Steps necessary in the selection, installation, operation, inspection, and maintenance of electrical equipment and circuits are indicated.

The standard contains safety provisions on safe loads for voltage drops; surface power lines; underground power lines; surface substations; underground substations; installations of surface wiring and equipment; installation of underground wiring and equipment; hoisting equipment; belt conveyor equipment; main mine-ventilating fans; miscellaneous electrical equipment, and grounding.

Copies of the Code will be available from the American Standards Association, 70 East 45 Street, New York 17.



Safety Committeeman Booklet

The Man with the Badge is a 64-page, pocket-size booklet informally discussing the problems and responsibilities of members of safety committees.

Because *The Man with the Badge* deals not so much with the mechanics of safety committee operations, but with the kinds of approaches to committee problems that get the quickest results, it is useful to all safety committeemen regardless of the job and responsibilities they hold.

Problems such as the relation of the safety committee to the safety department, the maintenance department, and top management are discussed. Practical suggestions on how to conduct safety inspections, committee meetings, and how to get along with supervisors are also dealt with.

Printed in two colors and attractively illustrated, *The Man with the Badge* should be a valuable handbook for all participants in the plant safety program.

Member price: 1 to 9 copies, 60 cents; 10 to 99 copies, 45 cents; 100 to 999 copies, 40 cents; 1,000 or more copies, 35 cents.

Green Cross Playing Cards

A new medium for selling safety—playing cards imprinted with safety posters—is now available from the National Safety Council.

The cards, a high quality card-board coated with a durable plastic, are standard size and suitable for all 52-card games—bridge, poker, rummy, and so on. An extra joker is provided for canasta.

The backs of the cards carry the Green Cross safety seal. The playing face of each card carries a miniature reproduction of a popular National Safety Council poster printed in full color.

Wherever possible the poster ties in with the number of the card. For example, the one-eyed jack carries a poster on eye protection. The jokers carry posters on clowning and an example of a foolish disregard of a safety principle.

The cards can be used by safety directors to give spark and lift to the plant safety program. They can be used as awards to employees for safety suggestions or for work on safety committees. They make an inexpensive Christmas gift from the safety department to foremen and supervisors. In addition, the cards can be used at plant social events, in the plant recreation room and lounge, or at community social events attended by plant employees.

Safety playing cards are available either in boxed single or double decks.

Member price:

	Single deck	Double deck
1 to 9, each	\$1.00	\$1.90
10 to 99, each	.85	1.65
100 to 999, each	.80	1.55
1000 to 1999, each	.75	1.45
5000 or more, each	.72	1.39

Box covers may be imprinted with company name at an additional charge. Prices slightly higher in Canada.

An Employee Booklet on Falls

The Fall Guy, a 16-page (3" x 5½") booklet printed in two colors, is now available. It tells the story of Charlie, the Fall Guy, one of "3,000 industrial workers killed in falls last year." Charlie is shown doing all the wrong things—the things that cause injuries and fatalities from falls.

The booklet stresses the importance of using the proper type ladders, scaffolds, safety belts in working off the ground; the importance of good housekeeping and reporting unsafe conditions in the prevention of falls; and the

part personal behavior (hitching rides, running, not using handrails on stairs, wearing unsafe footwear) plays in fall accidents.

Member price: 1 to 9 copies, 12 cents; 10 to 99 copies, 7 cents; 100 to 999 copies, 6 cents; 1,000 to 4,999 copies, 4½ cents. Write for quantity prices.

Off-the-Job Safety

Follow the Leader, an eight-page (3¼" x 8"), two-color leaflet on off-the-job safety, has just been published.

Pointing out that industry has led the way in accident prevention, it discusses ways in which the lessons in safety that employees learn on the job can be applied to safety at home.

Among the subjects illustrated and discussed are prevention of falls, avoiding electric shock, using home workshop tools, handling flammables and chemicals in the home, and lifting.

Member price: 1 to 9 copies, 10 cents; 10 to 99 copies, 6 cents; 100 to 999 copies, 4½ cents. Special quantity discounts.

Fire Demonstration

Saf-T-Aid #5 shows some demonstrations that safety directors can use to dramatize their fire prevention programs. The first demonstration shows how an extinguished flame may rekindle itself under the proper conditions. The second demonstration shows how carbon dioxide quickly and effectively puts out fires. The third demonstration shows how, under certain conditions, metals will burn vigorously.

These demonstrations will live and bring home important points in a fire prevention lecture. The materials used in these demonstrations are cheap and easy to obtain.

Saf-T-Aids are free to Council members.

Driver Training Film

Smooth Operation is the newest driver training sound-slide film produced by the Commercial Vehicle and Transit Division of the Council.

—To page 104

SAFETY

POSTERS

IMPORTANT

ALL miniatures shown on these pages are of NEW posters—produced for the first time this month. Excepting the Jumbo poster (below, left) all will be available throughout 1952. Those displayed on the following pages in black and white are actually printed in two or more colors. We suggest you refer to this copy of the News in making monthly selections.



9468-C

25x38

Above new "C" poster, issued monthly, is indicative of the other two color posters—shown in black and white on the following pages and in the 1951 Poster Directory.

In addition to these new posters, you will find a great variety of subjects among the 744 posters illustrated in the 1951 Directory of Occupational Posters. For a proven plan of selecting your posters objectively, refer to pages 4 and 5 in the Directory. The 1952 Directory will be in the mail to all National Safety Council members by Dec. 15, 1951. Additional copies are available at 50 cents each—write Membership Dept., N.S.C.



JUMBO POSTER FOR JANUARY, 1952

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".



9466-A

8 1/2 x 11 1/2

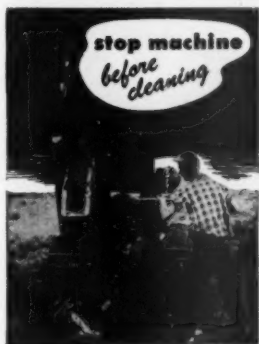
This new four color poster is illustrative of the 72 new four color posters shown in the 1951 Poster Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors
(Available only in sizes indicated)



NATIONAL SAFETY COUNCIL
9418-A 8½x11½



NATIONAL SAFETY COUNCIL
9406-A 8½x11½



NATIONAL SAFETY COUNCIL
9382-A 8½x11½



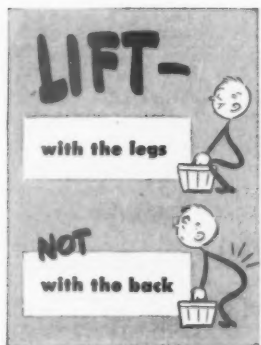
NATIONAL SAFETY COUNCIL
9300-B 17x23



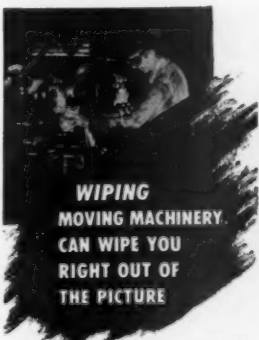
NATIONAL SAFETY COUNCIL
9376-B 17x23



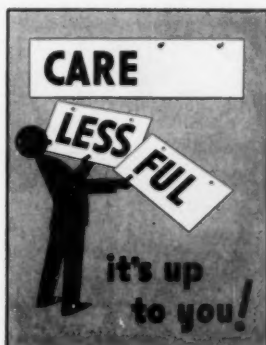
NATIONAL SAFETY COUNCIL
9449-A 8½x11½



NATIONAL SAFETY COUNCIL
9443-A 8½x11½



NATIONAL SAFETY COUNCIL
9435-A 8½x11½



NATIONAL SAFETY COUNCIL
9455-B 17x23

Electrotypes or payroll inserts can be furnished on all poster illustrations shown above.

Posters below are printed in two or more colors
(Available only in sizes indicated)

**THERE'S A SAFE WAY
FOR EVERY
JOB**

if you don't know-ASK!

NATIONAL SAFETY COUNCIL

9275-A 8½x11½

here's the way
hands get crushed!

safer to
use the hook!

NATIONAL SAFETY COUNCIL

9417-A 8½x11½

**FAMOUS
Last
WORDS**

LISTEN BUD,
WHAT I DON'T
KNOW ABOUT
SAFETY...

NATIONAL SAFETY COUNCIL

9431-B 17x23

**ONE
STEP
AT
A
TIME**

USE THE HANDRAIL

NATIONAL SAFETY COUNCIL

9451-A 8½x11½

HEY!
WEAR YOUR PROTECTIVE
EQUIPMENT

NATIONAL SAFETY COUNCIL

9402-A 8½x11½

WRONG

RIGHT

KEEP HANDS CLEAR

NATIONAL SAFETY COUNCIL

9458-A 8½x11½

**CARBON MONOXIDE
A KILLER!**

- Keep your cab ventilated
- Don't go to sleep in cab with engine running
- Report exhaust fumes in cab to maintenance department

NATIONAL SAFETY COUNCIL

V-9464-A 8½x11½

what you don't ^{see} know
CAN hurt you

NATIONAL SAFETY COUNCIL

V-9463-A 8½x11½

QUICK CHANGE SEASON

SNOW RAIN ICE

- 1 Check your braking distance
- 2 Adjust your following distance

NATIONAL SAFETY COUNCIL

V-9465-B 17x23

Electrotypes or payroll inserts can be furnished on all poster illustrations shown above.

**"Some 15,000 employees
in all branches of our
organization are taking
advantage of the
Payroll Savings Plan..."**

SPENCER LOVE

Chairman of the Board, Burlington Mills



"The Payroll Savings Plan is one of the important personnel services offered to the employees of our company. At the present time some 15,000 employees in all branches of our organization are taking advantage of this splendid plan for systematic savings. In times of national emergency this plan assists in stabilizing the economic life of the employee, the community and the nation."

Last call for the 1951 Defense Bond Campaign!

While the campaign was scheduled for six weeks, beginning Labor Day, the accounting period will include all Payroll Savings Plan bond purchases and enrollments in September and October.

If you haven't conducted a person-to-person canvass to put a Payroll Savings Blank in the hands of every man and woman in your company there is still time to join the thousands of companies which have added nearly a million employees to the Payroll Savings Plan through person-to-person canvasses.

Phone, wire or write to Savings Bond Division, U. S. Treasury Department, Suite 700, Washington Building, Washington, D. C. Your State Director will give you all the help you need—application blanks, posters, envelope stuffers, personal assistance.

Give your employees an opportunity to save for their fu-

ture and at the same time, help to maintain America's economic security—put an application blank in their hands.

Results of a few recent person-to-person canvasses

Firestone Tire and Rubber Company (40,000 employees), 87% participation; Universal Atlas Cement Company, 67.8% of 4,789 employees... Martha Mills, 71% of 2,200 employees... Lit Brothers, 52% of 3,630 employees... Delta Air Lines, 65% of 2,100 employees; Aerojet Engineering Corporation, 78.1% of 2,000 employees... Brown-Lipe Chapin Division of General Motors, 87% of 1,750 employees; Fabricast Division, General Motors, 85% of 1,700 employees.

Person-to-person canvasses now under way include:

	Number of Employees
38 Major Railroads	993,142
Radio Corporation of America	40,000
Owens-Illinois Glass Company	35,000
Cudahy Packing Company	17,000
Pacific Gas and Electric	17,000
Willys-Overland	6,750
Owens-Corning Fiberglas Corp.	6,500
White Motor Company	6,500
Freuhaut Trailer Company	5,700

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

NATIONAL SAFETY COUNCIL



PATCH A FOOT A MINUTE



NON-SKID QUICK-FLOOR

for **SAFETY - ECONOMY**
A READY MIX FOR INSTANT USE!



- **SAFETY:** Prevent accidents use QUICK-FLOOR PATCHES! RESURFACE worn, damaged or broken floors, aisles, ramps, stairways, etc. Wet or Dry QUICK-FLOOR is SLIP PROOF—NO Mixing, NO CUTTING, No delay, for light or heavy duty Floors.
- **ECONOMY:** A LOW COST RESURFACER or Patcher. The sooner trucks roll over it the better it gets. Low Traction surface that provides years of hard usage. No delays or interference to production. Economical in the long run. Write for facts and prices.

All Dura-Tred Products Are Guaranteed.

dura-tred Co.

Manufacturers since 1938
361 N. Central Park Blvd., Chicago 24, Ill.

Make Sturdy PUNCH PRESS GUARDS



from
**H & K
PERFORATED
STRIPS**

Here's an economical and permanent solution to your problem of guarding punch press dies. We furnish 6" wide strips with slotted perforations which can be easily and inexpensively formed into sturdy guards to fit any punch press. Strips carried in stock have a single row of 3/8" wide slotted holes. Sheets with multiple rows or a combination of slots and squares can be perforated to your specification.

Properly constructed guards of these perforated strips will receive prompt approval by insurance and safety inspectors. Permit us to send you complete information.

Also Available—

standardized safety guard parts for building sturdy guards for gears, belts and other dangerous moving parts.

**The
Harrington & King
PERFORATING CO.**

5645 Fillmore Street, Chicago 44, Ill.

114 Liberty Street, New York 6, N. Y.

Safety Tools

—From page 99

Designed for training city truck drivers, the film describes the distractions, interruptions, and irritation on the typical city driving job and shows how city driving can be accomplished with less wear and tear on driver and vehicle.

Safety directors and fleet maintenance supervisors will find *Smooth Operation* an effective aid in teaching their city operators.

The film is available in the sound-slide and slide motion version.

Member price: Sound slide, \$20.50; Slide motion, \$52.50.

Safety Instruction Cards for Hospitals

Four new Safety Instruction cards on hospital safety have been printed.

H-156 deals with identification of patients.

H-157 deals with protecting patients on wheel stretchers.

H-159 deals with controlling injury from open safety pins.

H-160 deals with caring for young patients.

Member price: 1 to 9 copies, 5 cents; 10 to 99 copies, 2½ cents; 100 to 999 copies, 1-9/10 cents; 1,000 to 4,999 copies, 1-7/10 cents. Special discounts on larger quantities.

Safetygraph on Intersection Accidents

A new training aid to combat intersection accidents is safetygraph 102, "Your Margin for Safety at Intersections."

Intersection accidents account for 50 per cent of traffic deaths and injuries. The hazards of this location demand special stress in any driver training and safety program.

This 12-page safetygraph will help the safety director cover the subject in an interesting and effective way—and cover the same points at each session.

Topics covered are speed and stopping distance, traffic lights, pedestrians, blind intersections, left and right turns at intersections, and many others. Interesting facts, colorful illustrations, and carefully planted discussion

questions insure maximum audience participation.

Member price: Safetygraph 102 "Your Margin for Safety at Intersections" complete with easel is priced at \$14.55. Special discounts for quantity orders.

Farm Safety

A 43 frame, 35mm filmstrip, *Are You Inviting Corn Picker Accidents*, is now available. The film illustrates how faulty adjustments, poor maintenance, and unsafe operating practices of corn pickers in the field and on the highway lead to accidents.

An outline and script is supplied with each filmstrip.

Member price: Single prints, \$1.00; 2 to 9 prints, 90 cents; 10 to 99 prints, 80 cents; 100 or more, 75 cents.

Two new Farm Safe Practices Leaflets have been published. *Damp Hay Fires* discusses the fire danger of moist hay and means by which the temperature of stored hay can be measured and kept down.

Safe Farm Driveways discusses how farm driveways onto public highways can be made safer. Instructions are given on placing markers, assuring good vision, and safe practices in driving into and leaving driveways.

Member price: 1 to 9 copies, 5 cents. Quantity discounts.

Plan Safety Code for Printing Machinery

Initiation of a project to establish a safety code for signaling devices and controls for graphic arts equipment under the procedures of the American Standards Association was recommended at a conference of manufacturers, purchasers, and employees using this equipment, October 31.

Different signaling methods used in printing plants throughout the country to indicate starting, stopping, or slowing up of a machine—bells, horns, whistles, flashing lights—have caused confusion and accidents as workmen move from one plant to another.

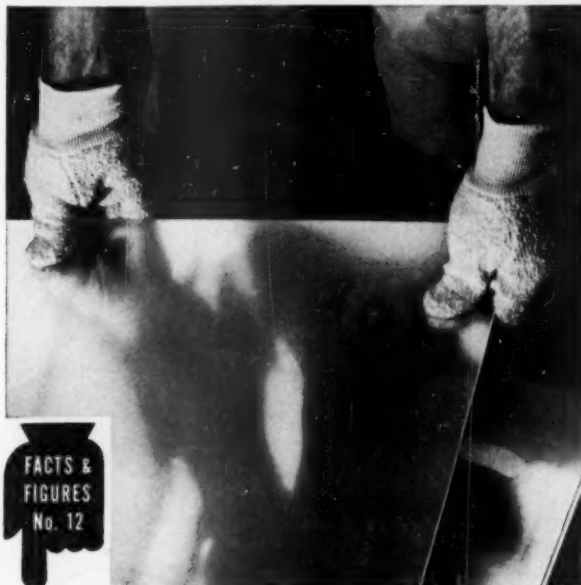
Another cause of severe and sometimes fatal accidents is the location of the power control button on a machine. It is in almost as many different positions as there are machines. This makes it extremely difficult for the workman to shut the power off in an emergency if he is not familiar

with the machine, or if he happens to be on one side of the machine and the button on the other.

To remedy this situation the conference recommended the initiation of this project. They also recommended that the Research and Engineering Council of the Graphic Arts Industry be invited to sponsor the program. The recommendations of the conference will be referred to the Safety Code Correlating Committee of ASA for final decision as to whether a

committee will be set up under ASA procedure.

Groups represented at this conference were: National Safety Council; National Electrical Manufacturers Association; Research and Engineering Council of the Graphic Arts Industry; Printing Industry of America, Inc.; Book Manufacturers Institute; American Society of Safety Engineers; and the International Printing Pressmen's and Assistants' Union of North America.



JOMAC GLOVES

save 90c per man per workday
in handling sheet metal

A large manufacturer of kitchen appliances* tested all types of gloves for handling sheet metal. Jomac proved superior to any other glove tried. The company standardized on Jomac. Cost records show Jomac is now saving the company 90c per man per workday.

*Name on request.

JOMACS ARE

Washable • Reversible • Flexible • Heat-resistant
Protect against heat, cold, rough and sharp edges

C. WALKER JONES CO.

6135 N. LAMBERT STREET • PHILADELPHIA 38, PA.

Sneaking Intruder

—From page 35

Fred's parting quip a few weeks later amused me . . . "Doc, you've sure got the best darn athlete's foot cure."

Your foreman has a busy time of it, if in addition to his assigned duties, he's watching for dermatitis hot spots in your shop routine. "Unhardened" personnel should not be allowed to expose

themselves without barriers or protective equipment to excessive concentrations of irritants for more than short periods of time, short-cut quickies such as immersing the hands in solvents such as trichloroethylene, mineral spirits, and the like, must be discouraged, and earliest signs of dermatitis ought constantly to be looked for. Assuming that under the watchful, trained eye of your foreman, dermatitis does develop and despite the irrepressible ad-

vice along Punchpress Row, the man is sent to your medical attendant . . . what then?

Spotless white walls and the rustle of starched uniforms provide a lot of atmosphere, but the actual point is . . . "just how much know-how⁴ is there in your shop hospital?"

Throughout your plant, no single person's influence exceeds that of your shop nurse. Her personality, training and sincere interest in your workmen's welfare are among your firm's finest assets . . . use them wisely. In one of the plants whose work I am privileged to do, June developed a dermatitis of the fingers. Following the investigative routine which has been developed by the control team, the nurse noted that the girl had just been transferred to ditto work. The simple expedient of issuing a jar of the proper protective barrier resolved the problem and restored the morale of a frightened employee.

Jim developed a dermatitis of his hands and forearms, and since this was his first job, his mother called the plant personnel man, informing him that she was having her son quit this job with which he had otherwise been very happy. Fortunately, the mother was assured of the interest the plant has in its employee health problems and the boy was sent to the nurse. During a friendly conference with her, it developed that the portion of our questionnaire dealing with hobby-contacts disclosed the interesting fact that this lad's latest spare-time venture was model plane building. A moment on the telephone enabled us to advise her that "dope" used in this hobby is a skin irritant. By abandoning this newest interest in favor of his stamp collection, the dermatitis quickly subsided with minimal conservative care.

Mike had been troubled for so long with a recurring dermatitis of the feet that the nurse finally called him in one morning for a little talk. Now Mike would have taken a good big Irish swing at anyone implying that he didn't take his Saturday night tub, but

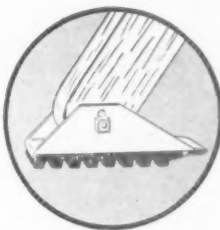
4. Meiter, E. G., Selling Industrial Hygiene to Management—The Insurance Company. Am. Ind. Hyg. Q. 12:102, Sept. 1951.

4 REASONS WHY

Safe-Hi Ladder shoes are safe on any type of surface



- Cord in the tread holds on wet, oily or soapy floors where rubber alone would slip.
- Rubber in the tread holds on dry floors, cord alone would slip.
- Straight ridges across the line of slippage cut through any slippery substance...grip the surface.
- Self-sharpening spike holds firmly on snow or ice.



**To prevent ladder slipping accidents specify
SAFE-HI LADDER SHOES**

See your safety dealer or write

SPECIFY

Safe-Hi
PRODUCTS

ROSE MFG. CO.

1731 Arapahoe St. Denver, Colo.

- SAFETY BELTS • LADDER SHOES
- POLE GRIPS • WALL GRIPS • CHISEL GRIPS
- LIFELINES & LANYARDS

the tact of this nurse won Mike over, so that when he began washing his feet every night, wearing fresh socks every day, and using all the free foot powder he wanted, dermatitis reports stopped.

Sally had a tendency to place more significance on lipstick, cologne and cleansing creams than on soaps, but when she was assigned to a routine involving cutting oils, Sally hit the ceiling. "Germs! That's what's making me a mess of boils!" she raved to the nurse. It would have been so very easy for the nurse to have told her facts even your best friend wouldn't tell you, but knowing the type, and the antagonism the employee would have expressed to being told she just didn't practice good "suds-appeal" she got the desired result in a roundabout way. This nurse told Sally that she'd issue her a very special "cutting oil soap" and that even though this product was fairly expensive, she wanted Sally to feel free to come in and get as many bars as she needed. Thus, Sally found out three things of importance to her . . . the nurse really cared about her chloracne, the company wasn't so stingy after all, and there was something good for oil boils—soap!

I'm sure my friends in industrial nursing careers would agree that their approach to the treatment of dermatitis has for the most part been a practical blending of standard dispensary prescriptions generally used throughout the industrial field and the latest in proprietaries, most effectively canvassed and impressed upon her. After all, "efficient relief of distress with less than one per cent adverse reactions" looks mighty good on the label until you start getting some of these one-percenters yourself! Over and above a handful of time-honored simple medications, the chemical nature of most prefabricated preparations intended for relief of some phase or other of skin irritation are so interwoven with a clinical appreciation of the skin's response that the guidance of a physician experienced in these specific problems is a necessity.

Armas, for instance, reported 5. Allis-Chalmers, Health and Safety Educational Series, "Suds-Appeal."

to the shop hospital of his plant complaining of "a very small, reddened area of dermatitis at the base of the right fifth finger." Over the phone, the plant surgeon, whose choice of instruments and sutures in the operating room would, I'm sure, have been a matter of exacting precision, instructed the nurse to "try some of that new stuff we got in last week." It so happened that Armas was sensitive to benzocaine, which was contained in this particular proprietary, and by the time consulta-

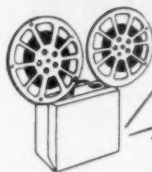
tion was requested, the area was badly infected and overtreated, in addition to which he was already manifesting sensitization features involving many areas of the body.

Repeated instances where enthusiastic purchasing of jugfuls of antihistaminic creams, 'caine-containing ointments, penicillin, or sulfa salves and a shelf-load of "nurse's little helper" preparations have rendered ineffective, the most conscientious efforts of a well qualified nurse, impel me to suggest that you be guided by some-

SHOW THIS MOVIE

FREE

SAFE
EXIT



You can do a fine educational job in behalf of safety by showing "SAFE EXIT," a 20-minute, 16 mm, black and white sound movie, prepared for you—**absolutely free**—by the makers of Von Duprin Fire and Panic Exit Devices.

"SAFE EXIT" is a true public service film—not a product story at all—dramatically filmed and edited for the layman to understand—and benefit by. Use this film as the basis for a lively safety program in your plant.

You pay nothing—not even postage—to show "SAFE EXIT" in your community. Simply fill out and mail the handy booking request below.



VONNEGUT HARDWARE CO.
VON DUPRIN DIVISION
Indianapolis 9, Indiana

Date

YES, we wish to show the 16 mm, sound, B & W movie, "SAFE EXIT."

Date Desired:

or

(PLEASE LIST ALTERNATE)

Type of Audience:

(SCHOOL, LUNCHEON CLUB, TRAINING, ETC.)

Expected Attendance

We understand film is absolutely rent-free, postage paid.

We agree to return film the day following our showing.

Organization

Authorized by

Address

City

State



one more qualified to set up your treatment procedure than an enthusiastic sales representative. In a word, your nurse's effectiveness cannot possibly transcend the applicability of the materials you provide for her to work with.

Much of the skin troubles arising in the shop can be handled at the foreman's level. Proper use of protective barriers and equipment, eliminating over-use of degreasers and the like, together with constant repetition of wash-

up instructions go a very long way in cutting down difficulties from dermatitis.

If Willard had only been issued a pair of rawhide mitts when he was assigned to handling steel stock, the abuse which this man's skin took for a week would not have occurred, and several visits to the physician could have been avoided.

Now Alois could have washed his hands properly but the drums of spirits behind the automatic

screw machines were so handy that one could hardly have expected him to walk away back to the washroom when the spirits did a much more thorough job of removing grease and oil in half the time. His foreman must have seen this hundreds of times, but it took a reprimanding memorandum after expensive medical care of a resulting dermatitis to put a halt to this highly unsatisfactory procedure.

Frank had worked on his honing machine for ten years without the slightest indication of dermatitis, so it was natural for his foreman to suspect poison ivy when he came in one Monday morning with an angry, oozing dermatitis up to the elbows. No one had bothered to ask Frank, and he hadn't given it another thought himself until questioning led to the discovery that the cleaning crew had not showed up for work on Saturday. Frank had worked overtime to clean it himself and without adequate "hardening," this exposure had set him off to a weekend of scratching and rubbing and a trip to the doctor!

Les was pulled off the job and assigned to "clean, dry work" because of excessive exposure to trichloroethylene vapors resulting in dermatitis of the arms. Who was he to question the foreman when he was given an order to quit loafing and get busy cleaning and flushing out a detergent tank? The result? Another physician's case!

Frank, because of a contact dermatitis, was placed on clean dry work, much to the disgust of his foreman. He was assigned on the first day, however, to cleaning grime from windows of the shop, but by noon, the detergent in his pail of hot water had caused the skin of the arms to ooze, so Frank sat in the aid room for the rest of the day soaking in boric acid. The next day found him scouring the sinks and toilets, the finishing touch to his "clean, dry work" which earned him a slip to the doctor and two weeks on compensation.

Now you and I know that your foreman doesn't pull this sort of boner . . . but somebody's foreman occasionally does. If you'll

Stop Athlete's Foot!

ONOX SKIN TOUGHENING!



ONOX
SPONGE RUBBER
FOOTMAT

**Used by Over 70% of the
Largest Industries in the United States**

No splash • No mess • No waste • Odorless

Easy to maintain • Nothing to get out of order

Men like Onox • It relieves tired, aching feet

Modern research has upset the old theories about Athlete's Foot control. Skin specialists now say that the best chance of preventing Athlete's Foot is to improve the condition of the skin. *That's what Onox does.* Onox mineral salts toughen the skin and make it resistant to fungus growth. No fungus growth—no Athlete's Foot.

60 DAY TRIAL OFFER

We will ship prepaid your trial order for any amount of Onox and footmats. *You pay nothing* unless fully satisfied after 60 days' use.

ONOX, INC.

DEPT. D, 121 SECOND STREET
SAN FRANCISCO 5, CALIFORNIA

WAREHOUSES: BROOKLYN, CLEVELAND,
NEW ORLEANS, LOS ANGELES

just give him that place on your control team, let him play quarterback, give him the prevention slant, these Rube Goldberg situations needn't occur at all.

Your hygienist or safety man is a looseleaf encyclopedia of industrial data, constantly changing with shifts in the production picture, ever adding to his stock of practical "know-how" as situations arise throughout your plant. Even an encyclopedia has a way of getting out of date, however, and to be of greatest usefulness to you, these men must be given a free hand and the earnest cooperation of all members of the production and control groups. One of my very closest friends, a top flight industrial hygienist told me one day, "Cliff, you give me a desk and take away my safety shoes and goggles, and I wouldn't be worth my salt in this work."

On the basis of what I see in a day's work as a medical consultant to industry, I'm inclined to go along with this . . . a hygienist should be one of those

fellows you just can never get on the telephone, because he's down in the shops, troubleshooting, listening to what the men complain about, looking for violations of what we have come to call adequate hygiene control.

When Geraldine, Dorothy and Florence asked for a transfer out of the photostating department, because of dermatitis, an investigation was requested. Because he'd seen this operation many times before on casual inspection tours of

the plant, the hygienist spotted a crystalline deposit on the machine which he had never observed before. On deliberate questioning, no one else had either, for that matter. Despite the fact that labels on the packages of developer bore the same code number as before, and the local purveyor insisted that no shift had been made, inquiry led to the admission by the manufacturer himself that a new formula was being tried. By reverting to the original satisfactory

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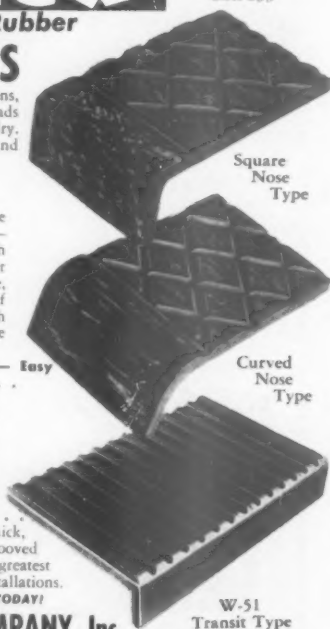
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Type

W-51
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formula, the epidemic of hysteria due to contact with the new formula was brought under control.

Harold seemed rightfully indignant when he was told that his dermatitis of face and arms was non-industrial because it was so obviously a case of dermatitis venenata, or weed-rash. When the man protested that he had fished and hunted in every part of Wisconsin for upwards of forty years without so much as a trace of poison ivy or any other rash due to weeds, a hygienist went to work on the puzzle. On the day preceding the onset of the dermatitis, Harold, it seems, had taken a group of men out to the fence lines of the factory in order to direct their cutting of an unsightly overgrowth of vegetation. On retracing his steps, the hygienist observed that at one point, the exhaust stacks of an adjoining paint and lacquer shop overhung in such a manner as to deposit these irritants on the weeds and tall grasses. It was this material which had made the actual contact, and all was well when the case was listed as "occupational dermatitis, liability assumed."

And just where, you may properly ask, does a skin consultant fit into this picture if the rest of the control team's backfield does all you've suggested? The question may be answered in two ways, for there is an easy, though costly pattern, and a more difficult, but economical one to follow. Simplest of all, of course, is to forget all I've said and let your physician develop a terrific industrial practice, carefully tabulated by your insurance carrier. The other is to try to fit the message behind these remarks into a workable pattern for your own sphere of interest. After all, isn't insurance actually intended for coverage of unforeseen calamities, not the preventable ones?

In the final analysis, it's certainly not reasonable, let alone good business, to allow an acute case of dermatitis to progress to a bewilderingly infected, over-treated stage before asking for professional help, any more than it would be to let gangrene set in on a bad cut before having it disinfected and sewn up! So

much could be discussed—over-treatment of minor irritations, non-compensable involvement of the skin treated as industrial dermatitis, unrecognized diabetics in industry with recurring infections of the skin, part-time bartenders with alleged industrial eruptions and a thousand and one human stories in the file of occupational exposure—that one is necessarily limited to saying that the greatest single contribution your skin consultant can make is to enter wholeheartedly into this suggested relationship with foreman, nurse, hygienist and safety engineer to give you a medical control group, ever anticipating, never underestimating and forever challenging the intrusion of industrial dermatitis into your plant!

Industrial Health

—From page 61

8. Employees should also be instructed to immediately remove oil from the skin by thorough washing with soap and water.

9. They should also be instructed and required to take a daily shower before leaving the plant if they have been on jobs where there is a possibility of skin contact with these oils.

10. These employees should wear clean work clothing daily.

11. It is desirable to have work clothing which has been stained with these oils dry cleaned and then washed with soap and water under supervised conditions.

12. Refinery equipment having contact with these oils should be restricted as much as possible to reduce the possible exposure points in the plant.

13. All equipment which must contain these oils should be identified by color and by label statements as being hazardous to skin contact.

14. Employees who have contact with these oils should be informed of the nature of the hazard. At most of the refineries special booklets outlining the precautionary measures and the nature of the hazard have been distributed.

15. The medical department should keep in touch with the precautionary measures in operation,

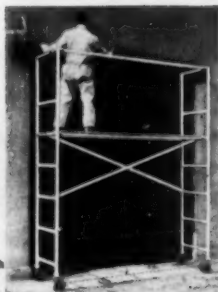
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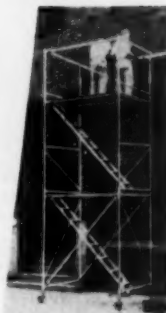
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preferably by periodically having a representative of the department survey the plant.

16. The central medical department should survey each plant on this problem at approximately six month intervals.

17. Precautions should be taken to eliminate the possibility of inhalation of vapor or mist of the oils by proper maintenance and other devices.

18. Where necessary additional medical personnel and equipment should be supplied to carry out the recommendations.

19. Studies should be made to determine whether or not blends of these oils are less carcinogenic than the original oil.

20. Complete reports covering the industrial hygiene engineering and clinical aspects of this program should be submitted to the central medical department every six months.

Properties of High-Boiling Petroleum Products, Quantitative Analysis of Tumor-Response Data Obtained from the Application of Refinery Products to the Skin of Mice, by F. H. Blanding, W. H. King, William Priestley, Jr., and John Rehner, Jr. The Archives of Industrial Hygiene and Occupational Medicine 4:335-345 (October 1951).

In order to control the various researches on carcinogenic properties of petroleum products which have been reported in the previous three papers in this series it was necessary to develop a method of expressing the carcinogenic potency of the various materials in a simple manner. It was also necessary to establish the reliability of this measure under given conditions of animal testing in order to have an idea of the controls necessary on the physical and chemical processes.

The data from the animal test results were found to fall approximately on a straight line if per cent of animals showing tumors or cancers was plotted against time on logarithmic probability paper. This made it possible to interpolate to the time to 50 per cent tumor response for any set of data and give approximately equal weight to each datum.

The same data were also calculated by an actuarial method

which gave closely comparable results but with considerably more labor in the computation.

It was found possible to predict the cancer response fairly well from the tumor response of any of the petroleum materials used in this series of experiments.

The reproducibility and reliability limits of the experimental results have been discussed at some length and the reliability limits for this type of mouse experiment have been calculated for a 95 per cent probability level for a wide range of tumor response.

Liquid Oxygen

—From page 42

kept clean. No organic matter or flammable substance of any nature should be allowed to come in contact with the liquid or its vapors. Some of the many materials that may react violently with oxygen under proper conditions of temperature and pressure are oil, grease, kerosene, gasoline, propane, butane, alcohol, ether, cloth, wood, acetylene, hydrogen, illuminating gas, paint, soap, tar, or dirt and dust which may contain grease or oil.

18. Liquid oxygen should be transported only in suitable containers which will permit the escape of vapors in such a way as to control the pressure which can build up in the containers. Fire, sparks, and other sources of ignition should be kept away from the vapors resulting from evaporation. Concentration of the vapor should be prevented by ample ventilation.

19. Because of its low temperature, the liquid should never be allowed to come in contact with flesh.

20. The physical properties of many materials at extreme low temperature may be quite different from the properties of the same materials at normal temperatures. Therefore, materials which have been cooled to liquid oxygen temperature should be carefully handled until their properties under these conditions are known.

21. Metals to be used for liquid oxygen equipment must possess

satisfactory physical properties at the low operating temperatures. Since plain steels lose their ductility when subjected to the low temperatures used in the production of liquid oxygen, they are considered too brittle for this service. The same difficulty is encountered with ferrous alloys except the austenitic nickel-chromium alloys. The latter alloys have good ductility at the low service temperatures under consideration, and the most widely known is the 18-8 stainless steel.

22. A number of non-ferrous metals have sufficiently good ductility in the wrought condition to be acceptable at extremely low temperatures. Among these are copper, bronze, brass, copper silicon alloys, monel metal, and aluminum.

23. Introduction of a substance which is at normal room temperature into a liquid of such extremely low temperature as liquid oxygen is always somewhat hazardous. There is a violent evolution of gas, and there is likely to be considerable splashing of the liquid. Individuals doing this work should be instructed in the hazard and should always wear a full face shield and protective clothing.

24. The use of liquid oxygen may require other precautions to be taken. If such precautions are not known to the person using the material, they should be found out. Each new use for liquid oxygen should be considered carefully and before it is instituted safety precautions should be completely outlined. For instance, small amounts of liquid oxygen are frequently handled in Dewar flasks. These flasks occasionally collapse, particularly if the liquid oxygen is splashed on the joint at the neck. These flasks should always be kept behind protective screens while in use.

25. The heat of vaporization of liquid oxygen is low. In addition small quantities of liquid produce a large volume of gas at atmospheric pressure. Small heat flow from the atmosphere into the liquid will produce an appreciable volume of gas. For this reason,

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all storage vessels should be provided with pressure relief devices unless the container is so vented that the gas cannot be bottled up. All lines and vessels in which the liquid oxygen may be trapped between closed valves should be equipped with pressure relief valves. If there is any likelihood that the relief valve may freeze, as for instance from ice from dripping water or condensed moisture, such vessels and lines should be equipped with rupture discs.

26. Both pressure relief valves and rupture discs should be placed and protected so that water cannot splash or condense upon them.

Handling Precautions

27. Men handling liquid oxygen should be thoroughly instructed as to the nature of the material. Careful training is essential to minimize accidental spilling, to prevent damage from both the coldness of the liquid, and the concentrations of the gas.

28. Goggles or face shields, gloves, and aprons should be worn. Asbestos gloves large enough to be removed quickly are preferred in some situations, but it is often better to have the hands bare. In this way any spillage will be able to evaporate quickly and the risk of burns will be minimized. Clothing should be made of tightly woven material so that oxygen cannot accumulate in the interstices. Greasy hair preparations and other cosmetics may also be dangerous under some conditions. High topped shoes with the pants worn outside them are also desirable.

29. When pouring liquid oxygen from one container to another, the receiving container should be cooled gradually to prevent thermal shock. The liquid oxygen should be poured slowly to avoid splashing. The receiving vessel should always be vented to the atmosphere and high concentrations of escaping oxygen should not be allowed to collect.

30. Liquid oxygen should only be poured into a clean, empty container, unless it is certain that the container already holds some liquid oxygen.

31. Small containers of liquid oxygen should be covered when not in use to prevent an accumulation of moisture and consequent plugging of the container outlet.

32. To insure safe control of liquid oxygen in laboratories, test stations, or wherever it is used, all orders should be cleared through some responsible person, who will insure that the potential user is aware of the dangers involved and will follow the recommended procedures.

ACKNOWLEDGMENT

This Data Sheet was drafted by H. F. Reinhard, Engineering Committee, Chemical Section, National Safety Council. It was reviewed by the Safe Practices Conference Committee and approved by the Industrial Conference of the Council.

Safer Than You Think

—From page 72

ciation for their out-of-the-ordinary regard for safety rules, expressed his thanks for the NSC's program.

"Atlas is proud of its long association with the National Safety Council and has been one of its enthusiastic supporters. The work of your great organization in promoting safe practices in industry, in transportation and in the home has contributed much toward a better and happier America. May success continue to mark your future endeavors."

He then pointed out how the accident frequency rate for American industry had been reduced 71 per cent since 1926 through the combined efforts of labor and management.

The awards presented by Dearborn and Fogg were accepted by W. F. Reager, plant manager, and Raymond Tiley, head of the plant safety committee. Reager pointed out that the employees there had compiled more than 180 injury-free days since the minor accident which broke their long string.

Mr. Fogg's mention of labor-management cooperation was evident by the group on the speaker's platform. In addition to Fogg, Dearborn and James Ashton, manager of the Delaware Safety Council and a member of the board of

directors of the National Safety Council, those on the stand included Frank S. Pollock and E. W. Maynard, directors of the company; Mr. Tiley, Mrs. Rose Dombrosky, Joseph Rita and Norman Stamm, the members of the plant's safety committee; Reager, William B. Blakey, company director of explosives operations; W. W. Flanagan, company safety engineer; Thomas Kennedy, director of industrial and public relations; Mrs. Clarinda B. Breslin, plant nurse, and Frank J. Horty, of the industrial relations division, who was master of ceremonies.

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FRANCIS WILLIAM LANE, JR., sand control engineer, Stockham Valves & Fittings, Birmingham, Ala.—electric shock.

LOUIS C. BEARER, engineer, Phillips Petroleum Co., Bartlesville, Okla.—electric shock.

EARL E. GATZKE, physical education instructor, Tomah, Wisc. High School, Tomah, Wis.—drowning.

PAUL M. CHRISMAN, mechanic, Warren Petroleum Corp., Monument, New Mexico — drowning. Certificates of Assistance to R. H. HAWTHORNE and W. V. WHITAKER.

GLEN L. SCHMIDT, airman, United States Air Force, Roswell, New Mexico—drowning.

JOHN J. WILKINS, cable splicer, Indiana Bell Telephone Co., Bloomington, Ind.—electric shock.

ROY M. LUNSFORD, service foreman, Indiana Bell Telephone Co., Bloomington, Ind.—electric shock.

ALFRED SAUVE, tractor operator, Dept. of Transport, Callander, Ontario—electric shock.

H. J. BRISSON, Dept. of Transport, Callander, Ontario—electric shock.

JOSEPH PERONE, meter reader, The Manufacturers Light and Heat Co., Pittsburgh, Pa.—gas asphyxiation.



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SEE PAGE 11

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Bringing People Together

—From page 76

So, I again come back to the joint effort, but with a different setup. In such a plan, labor must be recognized and given its share of responsibility. What is equally important, this plan must include the forgotten and neglected little operator as well as the big operator. Here is where a state labor department comes into the picture. We have found that our Division of Industrial Safety has been able to bring together labor and management from both large and small plants, for the simple reason that we have the confidence of all groups. In addition, we have the data, material and facilities which they all need.

Later, I'll give you several examples of how joint effort was used to attack a particular hazard; but for the present let me couple all three points into one, and show you how we got management and labor to come together, analyze the problem, and jointly reach a solution.

With the recent tremendous industrial growth of California, we found it necessary to rewrite our official State Safety Orders.

We could have gone ahead and rewritten these Safety Orders to conform with our ideas of conditions as we found them—but we didn't. We called into conference the leaders of the different divisions of industry, with representatives from management and labor—and, where advisable, the public. With them we discussed each and every problem and the solution proposed. At first the discussions waxed hot and fast, but after a while they softened down to meet the one and only criterion: "Would it prevent an injury, or would it stop a death?"

When these Orders were finally adopted, they had the approval of both management and labor. These were *their* Orders; they could not disown them, and no one, down to the lowest echelon in the ranks of labor, or in the smallest of owner-manager plants—no one could point the finger at the Orders and call them discriminatory or favoring one side or the other.

But that isn't all. Of even

greater value was the change in mental attitudes that took place. The union representatives learned something of the problems which confront the man who pays the bills, while the latter likewise learned the disastrous consequences of a poorly planned and poorly guarded shop. They both learned to see things from a broader point of view. They even learned to call each other by their given nicknames and laugh at each other's jokes.

I'll be frank with you; it would have been far easier for our engineers to have rewritten those Orders themselves, and many, many times during those long and tiring conferences I felt that perhaps we should have. But now I can see that it was worth all the painstaking effort. Now, when one of our engineers goes into a plant and requests a point-of-operation guard, he doesn't run up against a stone wall of opposition. Even the smallest machine shop in the state has been made aware of this

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particular danger, and of the fact that their own representatives drafted the Orders making point-of-operation guarding obligatory. Instead, the owner, superintendent or foreman simply asks, "Well, how would you suggest we guard it?"

I think that you will all share my opinion of the value of getting management and labor together, and with friendly understanding to analyze their common problems and agree on a joint plan for the correction of unsafe factors. If you agree with me so far, then you will appreciate the fourth phase of our plan. This phase is built upon the effectiveness of the other three and helps drive them home to a successful conclusion.

But before I go into this fourth point, let me tell of a couple of interesting cases where a state labor department, which in California is our Division of Industrial Safety, brought management and labor together on safety problems, thus laying the groundwork for the final step. A couple of years ago we had a rash of serious injuries and deaths from explosive-

powered tools. Something had to be done, and done quickly. Some union representatives wanted the tools prohibited. Contractors needed them, and wanted to use them everywhere. The Division sent for the manufacturers of the tools. Then followed a concentrated series of meetings with representatives of the contractors and the unions. By the time the conferences ended, an effective set of rules and guards was developed which has practically eliminated accidents from this source. Last year we had 15 disabling injuries and one death from this source. So far this year we have had only two injuries. Recently these same safety standards for explosive-powered tools have been approved in Austria—that section of Austria outside the iron curtain.

You have all heard of the remarkable reduction in injury frequencies achieved by the Pacific Coast Association of Pulp and Paper Manufacturers working in close cooperation with the two unions, the Industrial Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers. Through a joint accelerated safety program, they reduced injury frequencies from 42 to 12 in the short space of five years.

Then there is the case of the lumber industry—the toughest and most rugged group of individualists that ever came out of the northwest. You had to be a he-man to work in the woods. One out of every six men was expected to get hurt, and deaths were not unusual. Some plants boasted of frequencies as high as 160. Some of the larger operators had formed a safety association and were striving to control their accidents, but the smaller ones went on ruthlessly.

We sent a group of our engineers into the woods and made a study of the hazards. Then, armed with data fresh from the woods, we called the operators and the unions together. These men had met many times before, but always in battle array. Now they were meeting on a subject of mutual interest. Suffice it to say that the conferences ended with both sides locked in friendly arms, having

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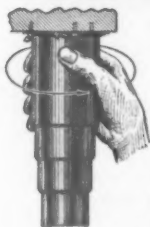
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cooperated in developing a new set of Logging and Sawmill Safety Orders.

Multiply this picture until you have labor and management in all industries conferring on safety, working up plans and carrying them out—then you would think that we safety engineers—we labor departments would have worked ourselves out of a job. No—not as long as industrial executives and workers are humans—and that is where the fourth point follows through naturally into our plan.

The fourth and final step is the "follow-through." You all know how essential a "follow-through" is in a golf drive, in slamming a baseball, in military tactics, and in business. In case of a statewide safety program, "follow-through" consists of keeping both groups continuously safety-conscious through their own organizations, and especially by extending the program into the small places of employment everywhere throughout the state—down to the very grass roots of our industrial empire. In a state labor department, "follow-through" can be carried out either directly by the staff engineers in concentrated doses—or indirectly through the aid of the unions and trade associations.

Obviously, with a limited force of engineers, we in California could never get around to the 260,000 places of employment, and reach over 4 million employees with an effective and continuous program of accident prevention. Our present setup permits only an annual or biennial visit to those plants presenting more severe hazards. We realize that this is not frequent enough. Accidents occur continually and their prevention has to be carried on continuously. Where hazardous conditions have seasonal or occupational peaks, we can and *do* concentrate on such areas or occupations with extra crews of engineers. This is a form of direct "follow-through" which demands immediate or positive action—such as in lumbering operations, seasonal agricultural work, new booms in mining, sudden activities in oil. All of these demand the personal attention of our representatives at the time and in the place where increased

hazards arise from work being done under concentrated pressure.

Then there is that form of "follow-through" which is best described as "educational." You are all familiar with this educational phase of accident prevention work. An excellent example of this type of "follow-through" is that done by the National Safety Council. Every state labor department should conduct similar educational programs along more topical and local lines. While a state labor department is primarily an enforcement agency, I for one believe that such an agency must undertake both enforcement and education to do a good job. In California the Division of Industrial Safety has a group of men who devote their full time exclusively to educational work. And every one of our engineers is trained to approach his inspection work with an educational attitude.

Our educational material forms a valuable addition to this principle of "follow-through." But we recognize that educational material is far more effective if the recipient realized that his own representative had a share in drafting the contents. We, therefore, call on both labor and management to help write and distribute our printed matter.

However, our toughest problem is in reaching the employees in the 220,000 small places of employment—those forgotten men scattered throughout the outlying districts of the state—virtually neglected as to the guarding of their health and safety.

We simply haven't the manpower to give them frequent, personal and direct help. But we can help them indirectly. And that is where the indirect "follow-through" becomes effective.

By this, I mean, reaching them with a continuous safety program, developed with the help of both labor and management and disseminated through their own unions and trade associations.

I have time to give you but one example of this form of cooperative effort. It was started by the Division of Industrial Safety, and is now being carried out in its ultimate grass-root ramifications, through a widespread organiza-

tion formed under the California Industrial Safety Conference.

The Division called together representatives of every industry in the state. They came from every county, with representatives equally divided between labor and management; presidents of railroads and public utilities, heads of international labor organizations, chairmen of industrial associations and local unions. Unquestionably, this group represented a perfect cross section of the working population of the state. The conferences were long and numerous, but sincere and purposeful.

Many of these men, for the first time in their lives, conversed on a friendly basis with men whom they had always considered enemies. But here they confined their talk to safety. They analyzed their mutual problems and arrived at specific solutions. But best of all they determined how these proposals should be implemented. Not only was the cause of safety advanced immeasurably by these conferences, but labor relations were benefited, and will continue to be benefited.

Resulting from this conference came requests from representatives of both sides—for special campaigns to combat specific evils. Plumbers were being plagued with strained backs. A joint program was developed by the plumbers, unions and our engineers, and is now being carried through by all parties concerned.

The hotel and restaurant workers, scattered throughout this state in a disorganized way, had never been taught the need of safe procedures. In cooperation with the owners and unions, a special set of safe practices was developed. Distribution was undertaken by the unions.

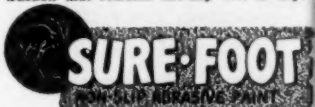
Some of the special groups such as the contractors and building trades unions, realizing the value of the joint effort, are automatically holding monthly meetings on safety problems. The Farm Bureaus and Granges accepted in toto the safety plan proposed by the Conference, and are carrying it to every farm in the state through county subcommittees.

All of these groups, once

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brought together and made aware of their responsibility, have needed only an occasional "follow up" to keep them safety conscious and desirous of eliminating injuries and reducing the resultant costs in dollars and suffering. Thus, through these conferences, our small staff of engineers, to all intents and purposes, has been multiplied a hundredfold. We now have friendly emissaries in every trade organization in the state keeping management and labor, big and little, safety conscious.

Throughout, we have sought to put over the idea that accident prevention is not the responsibility of one individual or group, neither is it to be thought of solely as an industrial problem, a thing apart, preached only by safety engineers and posted on the bulletin board or handed out in printed literature. Rather, safety should be considered as a way of life, to be woven into the warp and woof of the fabric of our industrial system. The safe way is the only proper productive way. Both management and labor must accept it as their very own. Both groups wanted to get together, but knew not how. The state agency of the Division of Industrial Safety was the catalyst which got them together and provided the stimulus. One of its functions now is to follow through and keep these fires burning, helping management and labor to work together.

Both stand to lose or gain according to their interest or apathy. We are here to help and see that none fall by the wayside. And it is with this "follow-through"—this keeping them forever at it with renewed enthusiasm, that a state agency can best function in maintaining a high pitch of interest in accident prevention.

Association Program Saves \$53,000,000

Since the organization of the Quebec Pulp and Papermakers Association was organized in 1932 members of the association in the province have saved some \$53,000,000 in insurance costs through an effective accident prevention program.

In 1931 when the province took over the writing of compensation

insurance, the larger companies lost the privilege of self insurance. The rate for the industry was \$7 per \$100 payroll and members of the industry decided to join forces to reduce accident losses and eventually insurance rates. A. S. Cook, who had been associated with pulp and paper manufacturing for several years, was appointed secretary and manager of the association. Offices were opened at 65 Ste. Anne Street, Quebec City.

By 1937 the program was beginning to show results. In 1939, the first year of the war, the industry had earned a reduced rate of \$5.50. A merit system of rating was approved by the Provincial Insurance Commission. During the past 19 years the average rate has been \$4.79 with a present minimum of \$0.30.

Ten Steel Foundries Set Perfect Mark in Contest

INCREASED EMPHASIS on steel foundry safety practice, highlighted by achievement of perfect safety records by 10 foundries, is reported in final results of the 1951 national safety contest announced by Steel Founders' Society of America.

With 135 steel foundries participating on an industrywide basis, a total of 23 foundries qualified for awards. Closely trailing the 10 winners of highest honor awards for accident-free operations during the three-month competition were 13 others which maintained near-perfect records, with minimum disabling injury ratings of 10.0 or less (per 1,000,000 man-hours of exposure) for the period. Among the top 10, all received honor awards last year, and six similarly have scored in the last two years.

Conducted by the Society's safety committee under supervision of Charles W. Briggs, technical and research director, the contest was held during June, July and August, months during which precedent indicates accident frequency rates tend to be high. Rules of the American Standards Association were used to determine ratings of individual foundries.

Green Cross News

—From page 48

one and the same. Why, even in answering our telephone calls, our switchboard girl greets you with one phrase: "Good morning — Green Cross!" — Excerpts from talk by Clinton W. Dreyer, Eastbay Chapter, NSC, at recent Managers Conference in Chicago.

Programs Come First

"To be effective and expect adequate support, a council must have well-planned, workable programs, under the direction of recognized leaders that will insure acceptance and support. The manager must have a clear concept of program objectives and how they can best be achieved. Your safety council will stand or fall, according to the amount of intelligence put into your program planning." — Excerpts from talk by Robert B. Leopold, Greater Atlanta Safety Council, at recent Managers Conference in Chicago.

"People Asking People"

"Granted that you have something to offer your community, the big problem is to form and maintain an organization to do the selling job. Success in fund-raising depends on having enough competent people to call on your business firms, your organizations, your individuals, and ask them for money. If you have the workers—I mean competent workers—you will get your money. My president who is experienced in raising money for community work in several cities, puts it this way: no matter how much planning you do, how many meetings you have, how much you rack your brains for a sure-fire easy way to get money, it finally comes down to people asking people." — Excerpts from talk by Walter D. Ladd, St. Joseph (Mo.) Safety Council, at recent Managers Conference in Chicago.

Hand-Tailored Letters

"Tailor your mail solicitation letters individually and follow up with personal visits or telephone calls. You'll not tell some stenographer to send Letter No. 6 to Mr. Brown. Nor will you copy the letter to J. & B. Foundry—making but the obvious changes needed to fit it to the Grand Department Store. Each of these letters will be the carefully phrased results of many minutes thought given to the exact items that will most likely loosen the target's purse strings. Obviously you would approach an attorney on a different basis than you would use for the operator of a vehicle fleet, or a small industry. Our form letters are not constructed in an off-hand moment. At least those that pull in dollars aren't done that way. A worthwhile solicitation letter requires careful word carpentry. You have to put your most telling argument into a strictly limited space. Each sentence has to pull its weight or make way for one that brings the signing of a check closer to realization." — Excerpts from talk by H. G. Jim Hays, Ohio State Safety Council, at recent Managers Conference in Chicago.



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President's Conference Meets June 2

A FULL-DRESS MEETING of the President's Industrial Safety Conference will be held in Washington on June 2, 3 and 4, 1952. This decision was made at a meeting of the Conference's Co-ordinating Committee in Washington, November 13.

The suggested theme for the 1952 meeting of the Conference is "Safety in Small Business."

The Co-ordinating Committee proposed that the Small Business Committee of the National Safety Council merge with the Conference's Sub-committee on Small Business to work out program suggestions. This proposal will be presented to the December meeting of the NSC's Industrial Conference. R. H. Ferguson, assistant director of labor relations of the Republic Steel Corp., will report on the Co-ordinating Committee meeting to the NSC Conference. Mr. Ferguson represents the American Society of Safety Engineers on the Co-ordinating Committee of the President's Conference.

The Co-ordinating Committee released information on developments of the work of the President's Conference to date. Key points were:

Twenty states are actively engaged in programs involving Governor's Conferences on Industrial Safety. This number does not include other types of statewide conferences, many of them held for many years.

More legislation on industrial safety and health was introduced in state legislatures this year than in the past several years. Twelve states enacted such laws, eight of them being states in which governor's conferences were held.

Twelve states reviewed or revised existing safety codes, adopted new ones, and had others in process.

Twelve states expanded safety education and training among supervisors and workers and in schools and extension courses.

Chairman of the Co-ordinating Committee is William L. Connolly, director, Bureau of Labor Standards, U. S. Department of Labor. Vincent P. Ahearn, executive sec-

retary of the National Sand and Gravel Association, is executive secretary of the President's Conference. Ned H. Dearborn represented the National Safety Council at the November Co-ordinating Committee meeting.

Ex-President Hoover Awarded Coonley Medal

HERBERT HOOVER, 30th president of the United States, was awarded the Howard Coonley Medal for services to the voluntary standards movement at the annual meeting luncheon of the American Standards Association held at the Waldorf-Astoria on October 24. He was cited specifically for his work in national standardization projects when he was Secretary of Commerce in the 1920's, and for the importance he placed on administrative standards in the Hoover Commission Report for government reorganization issued in 1949.

In a tribute to the benefits of standardization, Mr. Hoover declared: "Standards are at the base of all mass production. They make possible more continuous employment by manufacture for stock instead of dependence upon immediate and specialized orders. They have made it possible to conduct this fabulous productive machine with the least amount of spare parts and inventories in the hands of the consumer industries. They have sharpened competition. They have cheapened the cost of production in millions of directions."

"Thus they have been a factor in our rising living standards. They have enabled thousands of different articles to be placed within the reach of everybody. They do not impose uniformity on the individual, because they make available to him an infinite variety of additions to his living."

"Only a few of the literally thousands of standardizations or simplifications" Mr. Hoover said, "have been imposed by law. The vast numbers of them have been the result of spontaneous, voluntary yet organized cooperation within highly individualized industry . . . Their adoption has been playing a real part in the

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creation of the cooperation so vital among a free people."

Mr. Hoover was presented for the award by Dr. Robert E. Wilson, chairman of the Standard Oil Company (Indiana).

The citation was read by Thomas D. Jolly, vice-president, Aluminum Company of America, and president, the American Standards Association.

Train Employees to Meet Disaster

TWO THOUSAND EMPLOYEES of Raytheon Manufacturing Company in Waltham and Newton, Mass., will undergo training in plant evacuation and damage control under a program which was inaugurated several months ago and is now nearing the final stages of its organization.

Under the plan, procedures will be set up for rescuing the injured, administering first aid, combatting fire, controlling damage, and establishing fire prevention methods.

A plant evacuation and damage control committee has been appointed at each of Raytheon's locations in the area, to work out details of the program and to set up the necessary organization. Floor plans have been drawn up for the purpose of indicating fire exits in the plants, evacuation routes and alternate routes, the locations of fire-fighting equipment, and other essential information.

All plants are being equipped with a standard fire alarm system and an evacuation alarm. A 200,000-gallon auxiliary water supply for the plant sprinkler system—capable of operating independently of the city water supply—has been installed at the Waltham plant.

Under the plan, which is being coordinated with the procedures of Raytheon's full-time fire-fighting department, each employee in the emergency fire brigade is being given 10 to 20 hours of intensive training under professional supervision. To date, about 400 fire brigade and 500 evacuation volunteers have been trained. These represent about 50 per cent of the total number of employees who will participate in the training program.

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Because of the great variety of industrial uses, considerable research was necessary before face shields could be designed to match the actual needs.

Since 1939 we have been steadily designing new shields. With this background of development work, we are now able to announce 64 new shields, each designed to fill an industrial need.

There are nine new styles, a completely new line of face shields, each style with clear and green windows in a wide variety of shapes, widths and lengths. All windows are replaceable and interchangeable and kept in place by a new improved fastener that works easier and holds more securely than the popular glove fastener.

The headgears are revolutionary in design. A special patented double-jointed hinge permits lowering or raising the window by a variation of two inches. What is still more revolutionary is a two-inch forward and backward movement. This permits the wearer to place the window close or far from the face. Some shields are open at the top, while others have either a single or double cap. The double cap permits the wearer to decide how much of the fore-part of the head is to be covered.

These face shields are priced from \$1.25 to \$5.35 retail.

Ask Your Dealer to Show You Our New Carton with Illustrations of the New Shields on the Cover

If your dealer has not received a supply of the new face shields, please write us your face protection problems. We will then mail you three different shields for your inspection. Our direct price will include the packing and parcel post costs.

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Safety Manual Authors Win Die-Casting Award

AN OUTSTANDING STEP in the field of safety engineering in die casting plants received public acknowledgement recently when the Annual Doehler Award of the American Die Casting Institute was presented to the authors of the *Safety Manual for the Die Casting Industry*.

The Doehler Award, established in 1949, is made each year "for the outstanding achievement contributing to the advancement of the die casting industry." It was presented to Charles A. Sanford, industrial relations manager of the Cleveland Hardware and Forging Company, Cleveland, Ohio; Norman Dress, personnel manager of Precision Castings, Inc., Cleveland; and Byron S. Van Horn, safety director of the Doehler-Jarvis Corp. These three men were directly responsible for the compilation and publication of the *Safety Manual*.

Designed for use in both small and large plants, the *Safety Manual* is a working guide for the development of correct working habits.

The Doehler Award, presented by A. T. Lillegren, president of the Institute during the Annual Meeting in Chicago, included certificates and cash awards of \$500 to each of three winners.

French Group Studies U.S. Safety Techniques

A 12-man French "study team" arrived in the United States October 27 for a six-week study of techniques used by American industry to prevent accidents and occupational diseases.

The visit is sponsored by the Economic Cooperation Administration under its productivity and technical assistance program. The French government had reported that the incidence of industrial accidents and industrial disease is a factor of great importance in a planned productivity program being undertaken in France.

The team includes doctors, safety engineers, research workers and government officials involved in accident and disease prevention in French industry. Although work has been done in France in this

field since the war, the lag in French industrial development caused by the war and occupation left a serious gap in knowledge of modern safety techniques which has not yet been overcome.

On a program arranged for ECA by the Bureau of Labor Standards (U. S. Dept. of Labor), the team will study legislation, education, statistics, and prevention devices currently used in the United States.

Members of the team want to know about the development of "safety consciousness" and psychological and technical precautions.

The team expressed interest in learning our methods of safety propaganda and education for the worker. They want to observe at first hand the way in which American workers are protected against injury by dangerous machinery, also methods for preventing occupational diseases and rehabilitation of injured workers.

Asked and Answered

—From page 78

Organic Polyphosphates

Question: We would like some information on organic polyphosphates. To be more specific, information concerning their characteristics, hazards involved in the use of and the safe manner of handling them.

Answer: By organic polyphosphates I suppose that you mean tetraethyl pyrophosphate or parathion as these are the most common of the organic polyphosphates. There are, however, a very large number of other polyphosphates to which this information would not necessarily apply.

The two materials which I have mentioned are commonly used as insecticides and are of extremely high toxicity. They are largely used to replace nicotine sulfate, which is also highly toxic, so that their use is largely the replacement of one highly toxic material with another highly toxic material.

These compounds have their action mainly in the inhibition of cholinesterase and consequently in the inhibition of transmission of nervous impulses. The usual signs of poisoning are headaches, loss of

appetite, nausea, giddiness, shortness of breath, feeling of tightness in the chest and very contracted pupils of the eye. Anyone working with the material and showing any of these signs should be seen immediately by a physician. The physician should know that pulmonary edema may develop in this poisoning, even after a number of hours, and that the patient should be watched for this condition for at least 12 hours after the first signs of poisoning. The only specific treatment for parathion poisoning is the use of large doses of atropin.

Since these materials are absorbed by ingestion and directly through the unbroken skin as well as by inhalation, people handling them in the plant should be completely protected. Any operation where there is a possibility of dissemination of dust contaminated with parathion or dissemination of the vapor of parathion should be carried on under a ventilated hood. The people handling the material should wear rubber gloves, rubber boots, a full face shield, and rubber aprons or rubber coats if there is any probability of contamination of the clothing.

In spraying diluted parathion solutions in the field or in dusting with dilute parathion dusts, men should not work with any part of their skin exposed. They should wear long-sleeved shirts with the collars turned up, the ends of their trouser legs tied over the tops of their shoes and rubber gloves for protection of their hands. They should be protected against inhalation of the material by a toxic dust and mist respirator.

Mixing the concentrated liquid or concentrated dust with the diluent is a particularly hazardous operation and should be carried out with great care so as not to contaminate the skin or clothing and to avoid inhalation of the material.

The hands and face should be thoroughly washed before any material is eaten or drunk. Eating or chewing on the job should be strictly prohibited.

To prevent continued exposure to the dust or mist the clothing worn on this type of job should be changed and laundered daily. Men working with these materials

"SAFE" SAFETY SOLVENTS with HIGH Flash Point and LOW Toxicity

FO 128

FAST DRYING LIQUID

No residue on drying. To be used for cleaning electrical and mechanical equipment with complete safety to components. ORDER TRIAL 30 Gal. Drum at \$1.44 per gal.

FO 101

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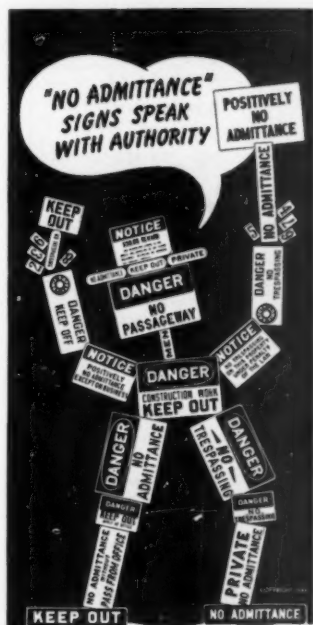
Exceptionally safe for spray-cleaning of equipment parts, electric motor stators and rotors and for tank-soaking of metal parts. May be recovered by filtration and re-used.

ORDER TRIAL 30 Gal. Drum at \$1.10 per gal.

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AVIATION-INDUSTRIAL DIV., Dept. G2.

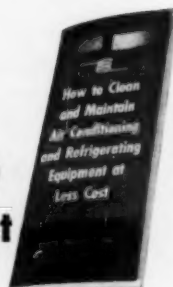
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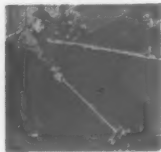
OAKITE
Specialized **CLEANING**

FOR *Safety-Economy*

PATCH OR RESURFACE WITH



1—Brush bone clean. Apply bonding agent. Flintz spreads like wet sand from drum or buckets.



2—Straight-edge Flintz thinly about 1/4" thick evenly over area desired. Feather edge outer brim.



3—Start roller over newly laid Flintz a few times and let your trucks roll over it.



READY MIXED FOR INSTANT USE!

• **SAFETY:** FLINTZ is a smooth, hard, NON-SKID or NON-SLIP surface that helps to cut down on accidental falls. You can Patch or Resurface worn or old Concrete, Wood or Metal floors without delay or interference. **SAFE—Wet or Dry . . . with FLINTZ.**

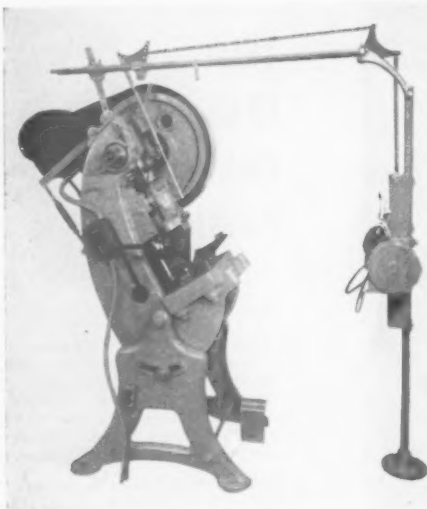
• **ECONOMY:** It is only necessary to cover heavily travelled aisles or worn areas. FLINTZ thins out to a feather-edge which will not crack or break under heavy traffic loads. Like moist sand—FLINTZ spreads thinner, goes farther; **RESULT—Low Cost per square foot. Low traction—easy pull floors.**

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The
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has many
**FAVORABLE
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- **INCREASES
OUTPUT
with safety**
- **Increases
good will**
- **Adjusts at
FLOOR
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*Information
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Every detail of construction of **THE SENTINAL** guard is designed and tested to comply with the **CODE** of the **AMERICAN STANDARDS ASSOCIATION.**

GUARDING CO. 6200 S. Wentworth
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should, of course, bathe immediately at the end of the work period and should do it most thoroughly with plenty of warm water and soap.

If these precautions are rigidly adhered to there is no probability of anyone coming to harm from the handling of the material.

Calendar Contest Winners For October

First prize in the National Safety Council's Safety Calendar Contest goes this month to Mrs. Harry Hall of Hamilton, Ont. Mrs. Hall is the wife of an employee of The Steel Company of Canada, Ltd. The theme of this contest was help others for safety. Mrs. Hall's limerick was adjudged best of all those submitted. It was:

Safety first is the wise man's first aid.
Second prize went to Horace Ditchfield of Oxnard, Calif., for this limerick:

Advocate, educate, and persuade!
Third prize was awarded to Miss Marguerite Hoerl of Wilmington, Del., for the following limerick:

Daily safety's the best kind of aid.
Thirty \$5 awards were issued to:
Marie J. Sparling, Alpha Portland Cement Co., LaSalle, Ill.

Mrs. Pauline Bower, Massillon, Ohio.
Mrs. Louise J. Tischler, Hollywood, Calif.

Mrs. W. E. Pickard, Albany, Ga.
Henry A. Shinkan, Socony-Vacuum Oil Co., Inc., East Chicago, Ind.

Mrs. John Lamb, Hamilton, Ont., Canada, wife of The Steel Company of Canada, Ltd., employee.

Anne Glynn, New York, N. Y.
Mrs. J. H. Murphy, Inola, Okla.
P. Stewart Morris, Jr., Grand Rapids, Mich.

Katherine Blackwood, Melrose, Mass.
Mrs. Marie H. Flowers, McComb, Miss.

Iva R. Judy, Walla Walla, Wash.
Ethel Atkins, Grand Rapids, Mich.

C. J. Mayer, Rahway, N. J.
Mrs. John L. Campbell, So. Pasadena, Calif.

Mrs. John C. Erkkila, Babbitt, Minn.
wife of Oliver Iron Mining Co. employee.

Allan A. Owen, New York, N. Y.
Mrs. H. F. Peters, Chicago.

Mrs. Julia Chambers, Estacada, Ore.
Mrs. John L. Roy, Shreveport, La.
G. E. Gambler, P B & N E R.R. Co., Bethlehem, Pa.

Mrs. K. E. Carver, Muscatine, Iowa.
Paul R. Hughes, Mt. Healthy, Ohio,
Wm. Powell Co., Cincinnati, Ohio.

Mrs. Michael V. Fey, New York.
Mrs. Josephus C. Battey, Rome, Ga.
Mrs. J. F. Klein, Santa Monica, Calif.

Nita R. Parks, Wilmington, Ill.
Charles J. Sexton, Indianapolis Railways, Inc., Indianapolis, Ind.

Grace E. Simington, Bremerton, Wash.
Mrs. E. A. Brelsford, Dayton, Ohio.

NEW SAFETY EQUIPMENT FOR INDUSTRY



Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

Emergency Lighting Unit

Insurance against light failures in large and small buildings is provided by the Exide Lightguard emergency lighting unit, manufactured by the Electric Storage Battery Company, 40 South 15th Street, Philadelphia 2.

Each Lightguard is about the size of a portable typewriter, consisting of one or two 25-watt sealed beam floodlights with power supplied by a thick-plate glass jar storage battery. A magnetic switch automatically connects the floodlights to the



battery when the normal current is interrupted. When the unit is not in use, its battery is kept charged from the regular electric circuit, since it is always plugged into an outlet. When normal power service is restored, a relay automatically turns off the floodlights and turns on the charging unit.

The unit is designed to illuminate 4,000 square feet of floor area. Its lamps are adjustable to provide light in any direction. A single lamp unit will furnish light continuously up to six hours and two-lamp units will operate up to 2½ hours, when the light output will be approximately 70 per cent of peak. In case it is decided to change the location or take the unit out of service, the line plug is pulled out and the lamps light. They can be turned off by a manually-operated toggle switch. Pulling the plug at any time is a simple way to test the automatic action of the unit, since this is equivalent to a power failure. When the toggle switch is turned to the off position, a neon pilot light goes out, indicating that the unit is not set for automatic operation.

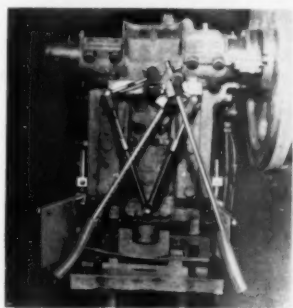
If additional light is needed in a critical area, the unit's line plug can be removed from the wall outlet. This automatically lights the floodlights and the unit can be carried to the area. The floodlights are movable and can be mounted elsewhere from the unit by attached clamps. An extension cord is provided.

Power Press Guard

A new sweep-type guard particularly adapted to short-stroke, long-die power presses is announced by Searjeant Metal Products, Inc., Box 88, Mendon, N. Y.

The new device, known as the Searjeant double-arm sweep-type guard, has the following advantages: When the ram is in the "up" position, both guard arms are suspended in front of the center of the bolster plate, one arm in front of the other. Thus the arms do not interfere with two-handed operation, particularly important when the job requires "nesting" of the piece at each end.

As the ram descends, the two arms swing right and left respectively from their central position. The entire working area of the press is swept clear before the downward stroke has progressed far enough to close on fingers or hands. Each arm travels at only half the speed required by a single arm guard to cover the same area. This half-speed action eliminates any tendency to snap. Only a smooth "wiping" action results.

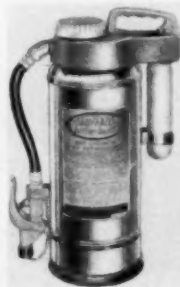


The guard is mounted on a hinged bar so that it can be easily swung to one side when the die setter is changing dies and making press adjustments. This eliminates the necessity of removing any part of the guard at any time. As an added feature, the guard can be equipped with a re-set counter which records each downward stroke of the ram. This counter will not operate unless the guard also operates,

encouraging the worker to use the guard at all times. All guards are designed to work with the downward action of the ram. A non-repeat device, also manufactured by Searjeant, can be installed with the new guard.

Fire Extinguisher

New 20- and 30-pound capacity lightweight, stainless steel, dry chemical fire extinguishers have been announced by The Buffalo Fire Appliance Corporation, 221 Crane St., Dayton, Ohio. Advantages



of this new extinguisher are light weight and maneuverability which allow the operator to reach the seat of the fire without lost motion. It also has a longer range.

This new extinguisher with finger-tip control, shoots a chemical heat insulating cloud up to 20 feet, snuffing out flames on contact. It produces 1100 times its volume in non-toxic, flame-killing gas on contact with flame. The extinguisher gives protection against B and C class fire hazards. It has been tested and listed by Underwriters' Laboratories.

Chemical Safety Shoes

Two new styles are now available in safety shoes designed specifically for use by the chemical industry. RICO hi-top style S-485 and oxford style S-435 are made of soft upper leather, treated for chemical resistance. Both shoes are completely stitched with Dacron thread and lined with Dacron fabric, which is highly resistant to many types of industrial chemicals and acids. Extra thick 18 iron full neoprene soles, neo-cord heels, and Dacron laces offer long wear under chemical industry conditions. Both high and low styles are available in widths C, D, E, and EE. Further information may be had by writing Record Industrial Co., Department NN, 3301 Arch Street, Philadelphia 4.



NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

Display Case

The Sellstrom Manufacturing Co., 622 North Aberdeen Street, Chicago 22, announces a new display case manufactured in two sections, to be used either as a single unit, or the top in itself can be used as a counter display case.

The top section is 15 x 25 inches and 9½ inches high, and is made of natural finish maple. There are three compartments. The center has a glass top and displays half a dozen goggles of various types. One side section displays 40 pairs of goggle lenses, packaged side by side in the new



window envelope or package, which has peep holes so the density and color match can be inspected without opening the package. The opposite side accommodates 41 plates for welding helmets, each packed with cover plates and gasket in an individual window package, which also permits examining the plate density without opening the package. The floor display case is 15 x 25 x 34 inches high and makes a base for the top section. The front section accommodates 6 to 8 dozen pairs of goggles, depending on the size of the cartons. There are special clips on the side of the case for displaying welding helmets.

The back section is for storage purposes. The top section is enclosed and accommodates 10 dozen plates and lenses. The lower section is for general storage. The case is offered free with the purchase of merchandise, or sold at manufacturing cost.

Foam Tower

A new portable device for discharging fire-smothering foam into a burning oil tank has been announced by Pyrene Manu-

facturing Company, 560 Belmont Ave., Newark, N. J. This equipment, called a Pyrene foam tower, claims the advantages of mobility over rough terrain, ease and speed of erection, and efficient delivery of large volumes of foam onto tanks up to 50 feet in height.

This equipment is assembled in two sections, a base with screw tilting gear mechanism and four spikes for use on rough ground; and a telescoped 20-foot, three-section tower with manual winch, two swivel-jointed push poles and stainless steel guy ropes. A six-inch foam column ends in a heat-resistant stainless steel discharge head. The tower is light and compact. Made principally of aluminum it weighs only 475 pounds complete and is easily carried on a small truck. A built-in or a forcing-type foam maker with water capacity of 300 gpm makes 2000 to 3000 gpm of air foam.

The tilting mechanism simplifies the application of foam. With the base in a stationary position, the discharge head can be moved forward 3 to 5 feet over the tank edge to discharge foam against the inner side of the tank. The manufacturers recommend this equipment for the protection of all storage tanks in an area where fixed foam systems are not installed or where such systems may have been damaged by explosion.

Bulletin Board

A new development that keeps cork boards clean longer, even under dusty conditions, is now being used in the entire Dav-Son line of the A. C. Davenport & Sons Co., 311 North Desplaines Street, Chicago, manufacturers of cork back



boards, bulletin boards, plant safety boards and other identification devices.

The new, improved surface coating protects the board from hand marks during installation, as well as from dirt and grime during use. Constant use without painting or other refinishing is among the advantages. The board may be had with or without glass. The new, special type board is being used on all of the Dav-Son cork board line.

Portable Flasher

A lightweight, portable electronic signal flasher, without moving parts or filaments and with longer battery life and visibility, has been announced by Haledy Electronics Co., 57 William Street, New York 5.



This new unit of cold cathode tube design emits a sharp, brilliant light clearly visible for approximately a mile. Unaffected by vibration, humidity or temperature in a compact splash and rainproof aluminum case measuring 6 x 6½ x 10 inches, it weighs 8½ pounds. It can be carried by handle for use wherever signaling is required. The flasher utilizes a set of three standard 90-volt batteries in series, whose life is lengthened since all battery energy is directly used to generate the signal. An off/on switch as well as an outside knob to control the number of flashes per minute, is provided. A clear or colored precision Fresnel lens protects the cold cathode tube.

Blow-out Switch

Micro Switch, Freeport, Ill., announces the first of a series of small size magnetic blow-out switches for use in switching high-voltage d-c circuits. These new designs of snap-action switches open a new field of use in the d-c circuits in industrial equipment, on railway equipment, street cars and other direct current applications.

These magnetic switches are of the same dimension as the standard precision switches built for a-c switching. The plastic case containing the switching unit

NEW SAFETY EQUIPMENT FOR INDUSTRY



Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

measures 1-15/16 inches long, 11/16 inches wide, and 27/32 inches high, and weighs less than one ounce.

Motorized Sweeper

A new motorized floor sweeper, powered by 1 HP 4-cycle engine, has been introduced by Parker Sweeper Company, Springfield, Ohio. It comes in two widths—20 inches and 28 inches. Addition of a wall brush increases the sweeping width 6 inches.



Three types of brushes are available, an all-purpose brush of mixed fibres; a Tampico brush for exclusive sweeping of tile, terrazzo, and polished floors; and a Bassine heavy-duty brush for sweeping heavy materials, rough surfaces, etc. The sweeper is easily emptied by raising the lightweight hopper, lifting it out, and dumping the contents. Other features include ball reel bearings, roller wheel bearings, and semi-pneumatic tires.

Drilling Dust Exhauster

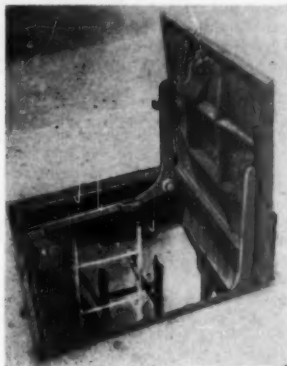
Columbia Technical Corp., 5 East 57th Street, New York 22, announces the Konigsborn drilling dust exhauster, which collects drilling dust and at the same time increases efficiency in percussion rock drilling.

The exhauster is operated with compressed air from the available air system. Compressed air is fed through valve into the injector which produces a strong vacuum in the apparatus. Air laden with dust and cuttings is drawn from the bore hole, through the bit holes, the hollow drill steel, the adapter, and the suction hose into a filter. The incoming air is thoroughly filtered and evacuated with the spent compressed air through exhaust port, while dust and cuttings settle in storage tank. The storage tank will hold dust and

cuttings from 10 2 inch holes 9 feet deep; a spare tank is substituted as soon as storage tank is filled. To simplify disposal of dust, paper bags may be inserted in storage tank, in which case a spare tank is not required. The exhauster is manufactured in three models.

Manhole Cover

The new Wachs safety counterbalanced vault or manhole cover is designed for safe and easy operation. Opening is accomplished by inserting a combination key-handle and giving it a half turn. Lifting the cover to its vertical open position is a one-hand job because the counterweights, which also hold the cover in a



protective upright position, ease the load.

One man can safely raise cover with ease; cover cannot slam or drop into vault and it can be opened from inside of the vault by one man; tamperproof lock cannot be opened without key-handle; counterbalance structure protrudes less than 6 inches from wall—30 inch square opening; heavy duty cast iron frame and ribbed steel cover are machined for accurate, rattleproof fit.

Suggested applications are for valve, meter, transformer, district governor vaults or any underground vaults of municipalities, utilities and manufacturing plants.

The manhole cover is manufactured by the E. H. Wachs Company, 1527 North Dayton Street, Chicago 22.

Safety Poster

Willson Products, Inc., Reading, Pennsylvania, has produced a new safety poster showing two scenes, one a hunter with his dog; the other, a blind man with a

"Seeing Eye" dog. The headline is the challenging question "Which Dog Would You Rather Follow?" The poster is printed in two colors, and is 12 inches wide and 10 inches deep. Quantities for posting on plant bulletin boards are available at no charge.

Intercommunications

A new intercommunications system, combining many features of the Talk-A-Phone master-selective and de luxe models, and adaptable to a wide range of time and labor saving uses in industrial installations, offices, factories and institutions, has been introduced by the Talk-A-Phone Co., 1512 South Pulaski Road, Chicago.

The new series offers a flexible combination from which incoming calls may be answered from a distance of up to 40 feet from any master station or sub-station, and in which master stations may talk with each other, sub-stations may be called selectively, or exclusively to any master station, and any master may be used privately or non-privately.



Adaptable to a wide variety of installations, the new series is designed for systems requiring operation of more than one master station along with sub-stations. Incoming calls may be answered by master stations or sub-stations without manual operation, from a considerable distance from the unit. The CL-5 is a combination system for five-station use, and the CL-10 is a combination system for ten stations. Master stations are equipped with talk-listen switches, stand-by, station selectors and volume control, while staff stations require no manual operation.



NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

Vacuum Cleaner

A fast, quiet new wet-dry vacuum cleaner, the Clarke heavy duty Model WD-23, is offered by the Clarke Sanding Machine Company, 30 East Clay Street, Muskegon, Mich. A three stage turbine, powered by a 1 HP universal type motor, both moisture-proof and rubber mounted, picks up



water, dirt and dust. The water lift is 63 inches. Portability is obtained with four ball-bearing swivel rubber casters.

The 15-gallon tank of 18-gauge steel is reinforced for strength, and the interior as well as exterior is porcelain-coated to prevent rust and corrosion. A special dump valve is provided for draining. A positive action shut-off device warns operator when the tank is filled to capacity. The entire base of the machine is surrounded by a protective, non-marking rubber bumper.

The machine is furnished complete with hose, wand, water pick-up squeegee and pick-up tool for carpets. Tools for special cleaning are available.

News Items

C. R. Olson has been promoted to general sales manager of Dunn Products, 1214 West Madison Street, Chicago. Mr. Olson has been associated with the firm for the past five years. Previously he was connected with John Morrell & Co., and Pfaltz Bros. Inc., packing firms. His new position will include the training and supervising of an enlarged sales force.

S. C. Lawson, general sales manager, Ampco Metal, Inc., was appointed by the Board of Trustees of the American Society

for Metals as one of the American conferees at the World Metallurgical Congress held in Detroit, Mich., October 14-19. This Congress is the first event of its kind and was sponsored by the American Society of Metals. It was held simultaneously with the National Metal Congress and the National Metal Exhibition to provide an opportunity for exchanging ideas and cementing friendships among American scientists and their counterparts.

Mr. Lawson, who holds a B. S. degree in mining and metallurgy from the University of Wisconsin, is a member of the American Society of Metals and the American Society of Tool Engineers. He has been on the speakers' list for the American Society of Metals for a number of years, speaking principally on bronzes and their industrial applications.



Albert R. Bauer with offices at 17 Congress Court, Saginaw, Mich., has been appointed factory representative for the Sanitary Receiver Co., Inc., Dunkirk, N. Y. His territory includes the states of Michigan and Ohio.

The Safety Clothing and Equipment Company, Cleveland, Ohio, manufacturers of Gardwell safety clothing, gloves, leggings, aprons, etc., have moved from 7016 Euclid Avenue to their new factory and offices at 1990 East 69th Street.

New Film on Fire Training

The American Petroleum Institute, through its Visual Aids Committee, has announced the release of a 16 mm, 20-minute fire training film entitled "Fog Techniques in the Extinguishment of an Oil Well Fire."

The picture demonstrates preferred techniques in the use of fog nozzles in the control and extinguishment of flammable liquid and gas fires.

To provide the narrative, the film starts by briefly showing spectacular day and night shots of an oil well on fire. The obvious problem is to shut off a control valve in the cellar of the well under a mass of crumpled derrick equipment.

The film shows the training sequences where two and three dimensional fires are extinguished by fog directly, or where men, under the protection of fog, close valves that shut off the source of fuel. The story illustrates the application of these techniques in permitting employee fire fighters to work in close to a burning well and pull out debris with bulldozers and clear a way for men to work in the cellar and shut in the well. All steps are shown in detail.

Any fire protection engineer will recognize that these techniques are applicable to any type of flammable liquid or gas fire, regardless of its source or location. There is no advertising in the picture.

Although the colored picture is silent, it is adequately titled. It not only illustrates clearly modern fog nozzle techniques, but demonstrates the value of a drill ground for employee training.

Prints are obtainable at \$85 through F. G. Wilson, API, 50 West 50th Street, New York 20.

"Pop, I need an encyclopedia for school."

"Encyclopedia! Whaddya' mean encyclopedia? You can walk to school like I did."

Woman to husband as she arrived in auto with smashed front: "And the policeman was so nice about it. He asked if I'd like to have the city remove all the telephone poles."

TRADE PUBLICATIONS

in the Safety Field

These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Send in the coupon below checked for the publications you desire. Please make your requests promptly.



1. **Linemen's Equipment:** Catalog No. 51 displays complete line of linemen's equipment including belts, climbers, accessories, clothing and tools. Also featured are safety tools and equipment for electricians and tree surgeons. W. M. Bashlin Co.

2. **Floor Care:** Illustrated folder No. CB-1 features the "scrubber-vac" machine designed to cleanse, scrub, rinse and pick up, all in one operation. Descriptions of conventional scrubbing-polishing machines included, together with listing of mopping equipment, applicators, waxes, sealers and cleansers. Finnell System, Inc.

3. **"Eyes at Work":** Illustrated brochure presents a plan initiated to protect the eyes of men and women in industry who wear prescription glasses. Discussion of safety requirements, professional ophthalmic services, and arrangements for dispensing prescriptions are included. American Optical Co.

4. **"Anderson Safety Guard":** Folder describes a new safety guard for press machines which is not a "sweep" guard, but is designed to stop the press when the guard barrier is blocked. Illustrations depict the guard in its several uses. Luther Mfg. Co.

5. **"Correct Fire Protection":** A 26-page, illustrated booklet which treats the different classes of fires, varying conditions of fire-fighting, and the suitable equipment for each. Also described are anti-freeze extinguishers, floodlighting equipment, sirens, gas masks, artificial respiration units, uniforms and accessories. American-LaFrance-Foamite Corp.

6. **"Basic Facts About Materials Handling":** Newest Clark "pocket size" booklet includes sections on combining units for efficient handling, routing materials, utilizing over-head storage space, use of trailer-trains, and effective use of limited manpower. Clark Equipment Co.

7. **"Brummel Hooks":** Illustrated folder announces new, quick connectors for attaching rope, wire rope or chain in many applications. Specification chart gives maximum safe load and other data on fast eye hooks, nut hooks, mooring deck fittings, swivels with bail and swivels with jaw. Brummel Hook Co.

8. **Elevating Towers:** Bulletin No. 734 announces a new, material-handling, elevating tower constructed of panel-type lightweight tubular steel with integral notch-locking mechanism designed to speed erection of the 117-foot tower. American Tubular Elevator Co.

9. **Air Control:** Catalog No. 15 gives description together with specification, construction and nomenclature charts of products for air control. Indexed are blow guns, couplers, hose and fittings, ferule machines, ejection sets, press controls, air cylinders and clamps, air control valves, and hydraulic gauges. A. Schrader's Son.

10. **"Agilene":** Circular describes products made of Agilene such as tank liners, fume hoods, acid tank floats and liners, safety jugs and bottles, valves and tubing. The physical properties and chemical resistance of this thermoplastic resin are discussed. American Agile Corp.

11. **"Klein Tools":** Illustrated Catalog No. 50 has complete line of tools for the electrical industry. Sections feature specially designed pliers, clamps, linemen's climbers and leather goods, grips, tackles and hand-lines, and miscellaneous tools. Mathias Klein & Sons.

12. **Automatic Press Feeder:** Illustrated circular describes the Ludoc automatic press feeder and unloader. Mechanical "arms" and "fingers" handling material from rough draw to final operation are depicted with illustrations. Magnaflex Corp.

13. **"Se-Lectric Rope":** Booklet describes a new safety rope which "fights off water" and possesses non-conductivity factors. The rope was specifically designed for the protection of linemen, maintenance and other electrical workers. South Eastern Cordage.

14. **"Sellstrom Safeguards":** Catalog No. 29 contains illustrations, specification data and price list for safety equipment including: goggles with lenses, welding helmets and hand shields, plates and lenses, acetate window shields, industrial respirators, and miscellaneous. Sellstrom Mfg. Co.

15. **"Spider Staging":** Illustrated folder describes new power-driven staging planned for adaptability and safety. Specification charts and diagrammed description of both an electric and air powered model are included. Spider Staging, Inc.

16. **Handling of Tubing, Bars or Shapes:** Folder presents movement of stock through a typical steel warehouse, with explanation of how handling materials can be simplified by the use of woven wire slings. Prepared for distribution to steel jobbers. The Cambridge Wire Cloth Co.

17. **Explosion-Proof Motors:** Illustrated bulletin describes explosion-proof, totally-enclosed motors designed for use in such hazardous locations as where dangerous fumes, flammable gases, explosive substances or combustible dust may exist. Among the safety features described are motor windings protected by asbestos. U. S. Electric Motors, Inc.

18. **"Easy to Reach":** Illustrated circular describes a portable foam tower for discharging fire-smothering foam onto the surface of burning oil in storage tanks. Assembly and operation of this tower described in the text. Pyrene Mfg. Co.

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Ampeco Metal, Inc.	12	Pennsylvania Optical Co.	59	Ansul Chemical Co.	11-115	R		B		Rockwood Sprinkler Co.	71	Bashlin, W. M., Co.	92	Rose Mfg. Co.	106	Bausch & Lomb Optical Co.	10-55	S		Beryllium Corp.	91	Safety Clothing & Equip. Co.	88	Blaw Knox Co.	92	Safety First Supply Co.	117	Bradley Washfountain Co.	93	Sellatrom Mfg. Co.	124	Brady, W. H., Co.	118	Smith, A. O., Corp.	116	Buhrke, R. H., Co.	95	Southern Mfg. Co.	112	Bullard, E. D., Co.	64	Standard Safety Equipment Co.	110	C		Standard Signs, Inc.	125	Cambridge Rubber Co.	77	Stonehouse Signs, Inc.	73	Chemical Service of Baltimore	45	Stop-Fire, Inc.	61	Chesebrough Mfg. Co.	65	Surety Rubber Co.	115	Chic Maid Hat Mfg. Co., Inc.	123	Sury Mfg. Co.	126	Chicago Eye Shield Co.	I.B.C.	U		Chicago Watchclock Co.	94	Union Wire Rope Corp.	79	Columbus-McKinnon Chain Corp.	83	U. S. Safety Service Co.	9	Consolidated Chemical Labs., Inc.	91	U. S. Treasury	103	Coppus Engineering Co.	5	V		Cover, H. S.	113	Vonnegut Hardware Co.	107	D		W		Davenport, A. C., & Sons, Inc.	98	Wheeler Protective Apparel, Inc.	120	Davis Emergency Equip. Co.	97	Wiemann Mfg. Co.	117	Dockson Corp.	122	Williams, Don E., Co.	121	Dolge, C. B., Co.	132	Williams Jewelry & Mfg. Co.	97	Dow-Corning Corp.	87	Willson Products, Inc.	49-50	Du Pont, E. I. de Nemours & Co.	13			Dura-Tred Co.	104-126			E				Electric Storage Battery Co.	6-7			Ellwood Safety Appliance Co.	109			Employers Mutual of Wausau	82			F				Fenwal, Inc.	69			Fine Organics, Inc.	125			Finnell Systems, Inc.	41			Frost Paint & Oil Co.	119			G				Glendale Optical Co.	93			Guarding Co.	126			H				Haas Corp.	116			Harrington & King Perforating Co.	104			Hild Floor Machine Co.	96			Hollingshead, R. M., Corp.	63			Hood Rubber Co.	65			Huntington Laboratories, Inc.	98			Hyscon, Westcott & Dunning, Inc.	57			Hy-Test Div., International Shoe Co.	16			I				Industrial Gloves Co.	132			Industrial Products Co.	111			Inland Steel Co.	81			J				Jackson Products	95			Johnson Ladder Shoe Co.	109			Jones, C. Walker, Co.	105			Junkin Safety Appliance Co.	112			Justrite Mfg. Co.	118			K				Kidde, Walter, & Co., Inc.	51			Klear-Vu Products Co.	75			Klein, Mathias & Sons	84			L				Laughlin, Thomas, Co.	80			Legge, Walter G., Co., Inc.	8			M				Macwhyte Company	3			Masury-Young Co.	67			McAa, Thom, Safety Shoes	45			McDonald, B. F., Co.	123			McKay Company	47			Melflex Products Co., Inc.	110			Merrill Brothers	123			Milburn Co.	114			Mine Safety Appliances Co.	I.F.C.			Minnesota Mining & Mfg. Co.	121																		
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Blaw Knox Co.	92	Safety First Supply Co.	117	Bradley Washfountain Co.	93	Sellatrom Mfg. Co.	124	Brady, W. H., Co.	118	Smith, A. O., Corp.	116	Buhrke, R. H., Co.	95	Southern Mfg. Co.	112	Bullard, E. D., Co.	64	Standard Safety Equipment Co.	110	C		Standard Signs, Inc.	125	Cambridge Rubber Co.	77	Stonehouse Signs, Inc.	73	Chemical Service of Baltimore	45	Stop-Fire, Inc.	61	Chesebrough Mfg. Co.	65	Surety Rubber Co.	115	Chic Maid Hat Mfg. Co., Inc.	123	Sury Mfg. Co.	126	Chicago Eye Shield Co.	I.B.C.	U		Chicago Watchclock Co.	94	Union Wire Rope Corp.	79	Columbus-McKinnon Chain Corp.	83	U. S. Safety Service Co.	9	Consolidated Chemical Labs., Inc.	91	U. S. Treasury	103	Coppus Engineering Co.	5	V		Cover, H. S.	113	Vonnegut Hardware Co.	107	D		W		Davenport, A. C., & Sons, Inc.	98	Wheeler Protective Apparel, Inc.	120	Davis Emergency Equip. Co.	97	Wiemann Mfg. Co.	117	Dockson Corp.	122	Williams, Don E., Co.	121	Dolge, C. B., Co.	132	Williams Jewelry & Mfg. Co.	97	Dow-Corning Corp.	87	Willson Products, Inc.	49-50	Du Pont, E. I. de Nemours & Co.	13			Dura-Tred Co.	104-126			E				Electric Storage Battery Co.	6-7			Ellwood Safety Appliance Co.	109			Employers Mutual of Wausau	82			F				Fenwal, Inc.	69			Fine Organics, Inc.	125			Finnell Systems, Inc.	41			Frost Paint & Oil Co.	119			G				Glendale Optical Co.	93			Guarding Co.	126			H				Haas Corp.	116			Harrington & King Perforating Co.	104			Hild Floor Machine Co.	96			Hollingshead, R. M., Corp.	63			Hood Rubber Co.	65			Huntington Laboratories, Inc.	98			Hyscon, Westcott & Dunning, Inc.	57			Hy-Test Div., International Shoe Co.	16			I				Industrial Gloves Co.	132			Industrial Products Co.	111			Inland Steel Co.	81			J				Jackson Products	95			Johnson Ladder Shoe Co.	109			Jones, C. Walker, Co.	105			Junkin Safety Appliance Co.	112			Justrite Mfg. Co.	118			K				Kidde, Walter, & Co., Inc.	51			Klear-Vu Products Co.	75			Klein, Mathias & Sons	84			L				Laughlin, Thomas, Co.	80			Legge, Walter G., Co., Inc.	8			M				Macwhyte Company	3			Masury-Young Co.	67			McAa, Thom, Safety Shoes	45			McDonald, B. F., Co.	123			McKay Company	47			Melflex Products Co., Inc.	110			Merrill Brothers	123			Milburn Co.	114			Mine Safety Appliances Co.	I.F.C.			Minnesota Mining & Mfg. Co.	121																																										
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Chemical Service of Baltimore	45	Stop-Fire, Inc.	61	Chesebrough Mfg. Co.	65	Surety Rubber Co.	115	Chic Maid Hat Mfg. Co., Inc.	123	Sury Mfg. Co.	126	Chicago Eye Shield Co.	I.B.C.	U		Chicago Watchclock Co.	94	Union Wire Rope Corp.	79	Columbus-McKinnon Chain Corp.	83	U. S. Safety Service Co.	9	Consolidated Chemical Labs., Inc.	91	U. S. Treasury	103	Coppus Engineering Co.	5	V		Cover, H. S.	113	Vonnegut Hardware Co.	107	D		W		Davenport, A. C., & Sons, Inc.	98	Wheeler Protective Apparel, Inc.	120	Davis Emergency Equip. Co.	97	Wiemann Mfg. Co.	117	Dockson Corp.	122	Williams, Don E., Co.	121	Dolge, C. B., Co.	132	Williams Jewelry & Mfg. Co.	97	Dow-Corning Corp.	87	Willson Products, Inc.	49-50	Du Pont, E. I. de Nemours & Co.	13			Dura-Tred Co.	104-126			E				Electric Storage Battery Co.	6-7			Ellwood Safety Appliance Co.	109			Employers Mutual of Wausau	82			F				Fenwal, Inc.	69			Fine Organics, Inc.	125			Finnell Systems, Inc.	41			Frost Paint & Oil Co.	119			G				Glendale Optical Co.	93			Guarding Co.	126			H				Haas Corp.	116			Harrington & King Perforating Co.	104			Hild Floor Machine Co.	96			Hollingshead, R. M., Corp.	63			Hood Rubber Co.	65			Huntington Laboratories, Inc.	98			Hyscon, Westcott & Dunning, Inc.	57			Hy-Test Div., International Shoe Co.	16			I				Industrial Gloves Co.	132			Industrial Products Co.	111			Inland Steel Co.	81			J				Jackson Products	95			Johnson Ladder Shoe Co.	109			Jones, C. Walker, Co.	105			Junkin Safety Appliance Co.	112			Justrite Mfg. Co.	118			K				Kidde, Walter, & Co., Inc.	51			Klear-Vu Products Co.	75			Klein, Mathias & Sons	84			L				Laughlin, Thomas, Co.	80			Legge, Walter G., Co., Inc.	8			M				Macwhyte Company	3			Masury-Young Co.	67			McAa, Thom, Safety Shoes	45			McDonald, B. F., Co.	123			McKay Company	47			Melflex Products Co., Inc.	110			Merrill Brothers	123			Milburn Co.	114			Mine Safety Appliances Co.	I.F.C.			Minnesota Mining & Mfg. Co.	121																																																																						
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Don't Let ATHLETE'S FOOT
Bench YOUR Players!

ALTA-CO BUILDS MORE
EFFECTIVE TEAMS!



In baseball, track, swimming and ANY sports competition, HEALTHY teams are WINNING teams. ONE member with painful, distracting Athlete's foot can impair the efficiency of your entire team.

Here's the Sound Tested Program
for ATHLETE'S FOOT Control:

1. ALTA-CO POWDER

... for the all-important foot tub in your shower rooms. One pound to a gallon of water kills common Athlete's Foot fungi IN LESS THAN A MINUTE! Non-irritating; harmless to towels. Easily tested for proper strength with Dolge Alta-Co Powder Tester.

2. ALTA-CO FOOT POWDER

... for dusting, gives additional protection against re-infection. Soothes while drying between toes in shoes and socks, this potent but gentle fungicide does its work where Athlete's Foot fungi flourish.

3. ALTA-CO 300 H.D. FUNGICIDE

... for your daily, systematic washing of shower room floors. In economical solution (1 to 300), its action is both fungicidal and bactericidal, giving your floors the same hygienic sanitation you demand be taken by each user of your facilities.

Write for 36-page illustrated booklet,
"Athlete's Foot—A Public Health Problem"

Dependable
DOLGE
WESTPORT, CONNECTICUT

when the welder must wear a Hard Hat...

give him a **CESCO** *Dual Protector*



FOR
**Arc
Welding**

• Consists of choice of CESCO Helmets and Fiberglas Hat. Rustproof, adjustable, easy-tilt mechanism holds shield in any position. Spring clip connectors permit fast, easy detachment of shield from hat which can be worn separately.



FOR
**Gas
Welding**

• A combination of Model 542 CESCO Speed-Shift Goggles and Fiberglas Hat. Ball-and-socket mechanism for quick flipping of goggles onto hat or into position. Goggles can be flipped to top of hat when wearer does other work.

NEW CESCO DUAL SKULL AND EYE PROTECTORS

Now . . . CESCO offers Dual Protectors . . . Fiberglas Hats with any type CESCO Helmet or No. 542 Goggles. Each is a completely adjustable unit . . . as easy to put on as the hat alone. No need to change headgear.

FIBERGLAS HAT Light and cool . . . safer than stainless steel. Waterproof . . . for all-weather wear. One size for all workers. Headband and hammock drawstring quickly adjustable for perfect fit. They're as comfortable as an old felt hat.

CESCO makes a complete line of industrial protective equipment in addition to Hat-n-Shield and Hat-n-Gogs Dual Protectors. For full information on Dual Protectors or other equipment see your CESCO distributor . . . or write us for literature . . . today.

CHICAGO EYE SHIELD COMPANY • 2306 Warren Blvd., Chicago 12, Illinois



CESCO

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Los Angeles, Montreal, Philadelphia, Pittsburgh, Seattle, St. Louis, St. Paul, Toledo, Tulsa

AO Steel-Stapled
HAND PROTECTION
 — Materials Handling Equipment
 for the HARDEST SERVICE!



AO makes a complete line of steel staple-reinforced, chrome-tanned cowhide gloves, mittens and hand pads. All are made to withstand hard wear on the roughest jobs yet remain flexible and comfortable. Your nearest AO Safety Product Representative can supply you with these BIG VALUES in protection and serviceability.

AO's Industrial Vision Program increases production, decreases accidents. Write today for free booklet "Improved Industrial Vision."



SOUTHBIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES



Protective
 Clothing

RECOMMENDED USES:

- AO 1644 GLOVE — For heavy operations in foundries and steel mills, heavy casting, handling of rough scrap.
- AO 1655 GLOVE — For grinding and rough operations.
- AO 1660 GLOVE — For foundry work and grinding.
- AO 5X138 GLOVE — For use in steel mills on flying shears, handling rough scrap, etc.
- AO 5X264 GLOVE — For handling small castings, rough stock and similar.
- AO 1674 MITTEN — Reversible, may be worn on either hand. For handling steel sheet stock, scrap, wheel castings, rough material.
- AO 1201 HAND PAD — For steel scrap and rough steel.



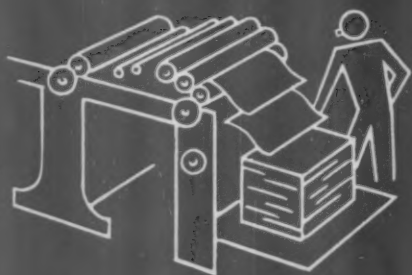
occupational



SAFETY

POSTERS

1952 directory



YOU DON'T HAVE TO STAND ON YOUR HEAD

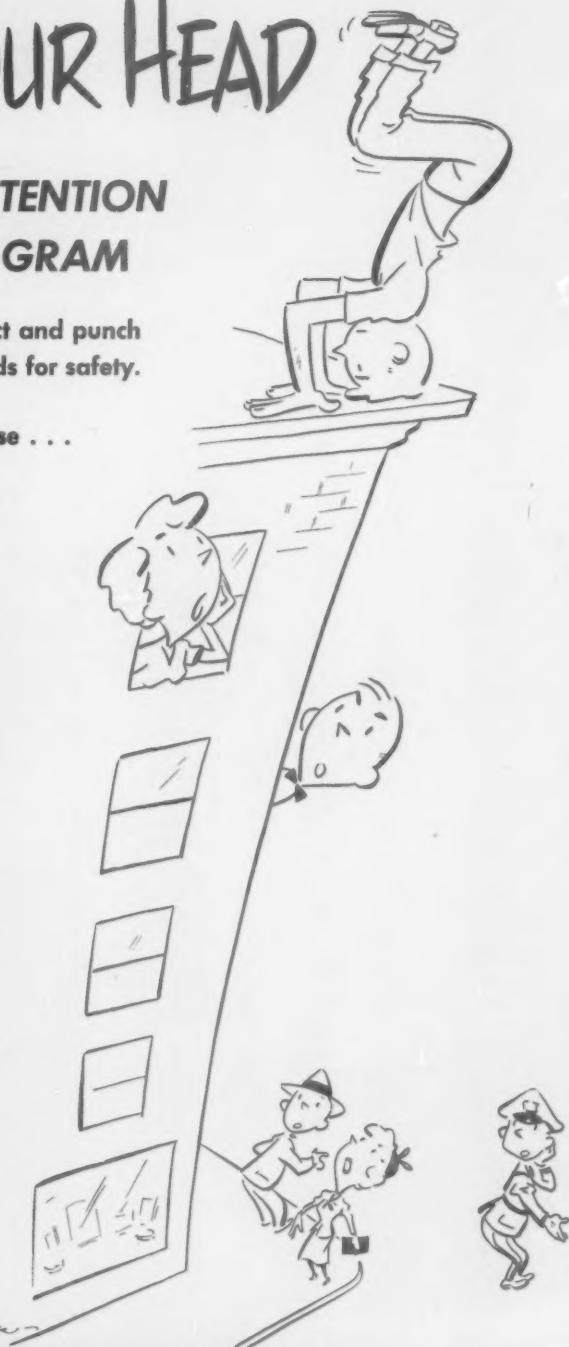
TO CALL EMPLOYEE ATTENTION TO YOUR SAFETY PROGRAM

Posters, with their striking colors, impact and punch are the mass advertising and selling aids for safety.

Posters sell your safety program because . . .

- .. they are aimed straight at the sources of trouble—the underlying worker attitudes and acts that lead to accidents;
- .. they bring interest, action and color into your program;
- .. they cash in on the three fundamental principles of successful selling—Timeliness, Repetition and Continuity;
- .. they reach your entire audience many times each day at a low, low cost—driving safety messages home at the time and place they can do the most good.

SO CALL ATTENTION TO YOUR SAFETY PROGRAM—YES, AND TO REALLY SELL ACCIDENT PREVENTION TO YOUR WORKERS, YOU CAN DO A BETTER JOB WITH NATIONAL SAFETY COUNCIL POSTERS.



MAIL THIS ORDER TO: NATIONAL SAFETY COUNCIL, 425 N. MICHIGAN AVE., CHICAGO 11, ILL.



POSTER ORDER FORM

Date _____

COMPANY _____

INDIVIDUAL	TITLE
------------	-------

ADDRESS _____

CITY _____ ZONE _____ STATE _____

COMPANY NAME _____

ADDRESS _____

SIGNED _____

This order will be charged against posters allowed with your membership unless your poster credit is exhausted or you are receiving your posters under the monthly automatic poster plan. If no credit is available for deduction of this order an invoice will be issued. Poster credits are figured on the following basis: 8 1/2 x 11 1/2 inch posters, one unit each; 17 x 23 inch posters, three units each; 25 x 38 inch posters, six units each.

[illegible]

DO NOT WRITE BELOW THIS LINE

TYPE	A SIZE	B SIZE	C SIZE	
INDUSTRIAL	_____	_____	_____	DEDUCTED FROM POSTER CREDIT _____
VEHICLE	_____	_____	• • •	TO BE BILLED _____
TRAFFIC	• • •	_____	_____	INVOICE NUMBER _____
SCHOOL	_____	• • •	• • •	OUT OF STOCK NOTICE SENT _____
FARM	_____	_____	• • •	
TOTALS: A _____ B _____ C _____			UNITS	REC'D IN MAIL ROOM _____
				FILLED BY _____
				DATE SHIPPED _____ VIA _____
				REPRINT SHIPMENT _____



THE 1952 DIRECTORY OF OCCUPATIONAL SAFETY POSTERS

THE wide selection of posters presented in this directory will be available for purchase during 1952. New posters issued during 1952 will be displayed monthly in the **NATIONAL SAFETY NEWS**.

These posters are the culmination of the National Safety Council's 38 years' experience in publishing posters directed toward shaping worker attitudes. Choices of subjects were made on the basis of the importance of hazards as indicated by the general accident experience of American industry. Sound psychological principles governed the selection of these varied types of appeals to workers.

This directory with its 744 miniatures posters is designed for use in various industries and the occupations related thereto. The Council's posters specifically in the fields of school, farm and home safety are not included, and only those traffic posters which relate to the motor transportation industry and some directed toward off-the-job safety are illustrated.

Posters are grouped into broad subject classifications—see Table of Contents on page 2. *A detailed subject index is presented on pages 70 and 71.* There are references under various subject headings which indicate the location of additional posters related to those particular subjects.

The posters presented in this directory in one color are actually printed in two or more colors. Four-color posters, reproduced in color, have been grouped in the center section of this publication but, because of mechanical limitations, this section includes posters of various subject classifications. References below regular subject headings will enable you to locate specific four-color posters easily. Dimensions shown below illustrations indicate sizes in which posters are available.

Additional copies of this directory may be obtained at 50c each by writing Membership Service.

For other poster program aids, see inside back cover.

published by



NATIONAL SAFETY COUNCIL

425 N. Michigan Ave., Chicago 11, Illinois

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Printed in U.S.A. 25M—WHP

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POSTER PRICES TO MEMBERS (Effective November 1, 1951)

	1 to 9	10 to 99	100 to 999	1000 to 4999	5000 to 9999	10,000 to 19,999	20,000 and up
"A" size (8½" x 11½")—assorted.....	\$.09	\$.05	\$.046	\$.038	\$.034	\$.032	\$.030
—all alike .....	.09	.05	.046	.036	.032	.029	.026
"B" size (17" x 23")—assorted.....	.18	.15	.138	.114	.099	.088	.078
—all alike .....	.18	.15	.138	.108	.087	.076	.066
"C" size (25" x 38")—each.....	.36	.30	.275	.20	—	—	—
Annual subscriptions (12 posters).....	3.60	3.00	2.75	2.00	—	—	—
JUMBO POSTERS —Annual subscriptions only (12 posters) paid in advance.....	49.00	46.00	43.50	—	—	—	—
Annual subscriptions on monthly billing.	4.90	4.60	4.35	—	—	—	—

Prices to non-members are double member prices. The above prices are subject to change without notice. Quantity prices apply only on a single shipment to one location. Other terms are as stated in official price list, Service Guide 2.1.

HOW TO OBTAIN POSTERS

Two alternate methods of selecting posters may be used by Council members:

(1) They may choose their own posters from the new posters published monthly in the NATIONAL SAFETY NEWS and from this directory.

(2) They may receive their posters each month by automatic service, selected by Council engineers.

Organizations holding standard industrial memberships are entitled to a specified quantity of posters, the number being dependent on the size of the membership. This quantity may be taken as an automatic service or may be set up as a poster credit to be drawn upon at any time during the membership year.

Members holding optional industrial memberships may order posters at any time and have the cost of the posters charged to their service credit.

When the member has no poster credit or service credit, or such credits are exhausted, he may purchase posters under either of the following plans:

(1) A separate purchase order may be used for each shipment, or

(2) A poster credit may be purchased, and orders charged against this credit.

To order an automatic poster service, simply designate (1) the type of industry to which posters are to apply, (2) the number of "A" size (8½" x 11½") to be sent each month, (3) the number of "B" size (17" x 23") posters each month, and (4) the number of "C" size (25" x 38") posters each month.

If your organization has diversified operations, you may wish to order automatic service for several types of operations. Or, for several locations, you may order any of the various automatic services for each plant. In this way you may obtain a supply of posters suited to the size and type of operation for any plant or group of plants.

National Safety Council staff engineers make selections each month to provide specialized automatic poster service to each of the following types of operations:

1. QUARRY—stone, gravel, sand, granite, rock crushing and cutting.
2. CEMENT—includes gypsum and asbestos mining and milling.
3. CHEMICAL—all operations.
4. COAL MINING.
5. CONSTRUCTION—all operations.
6. TRANSIT—city and suburban transit operations. (Passenger Transportation)
7. FOOD and Allied Products Manufacturing—general.
 - 7A—Dairy and Milk Products, including margarine.
 - 7B—Canning and Grocers.
 - 7C—Bakery and candy.
 - 7D—Distillers.
 - 7E—Brewers.
 - 7F—Grain Products—including linseed oil.
 - 7G—Ice Manufacturing and cold storage.
 - 7H—Sugar.
 - 7J—Miscellaneous or not otherwise classified.
8. FORGING—not power press.
9. FOUNDRY.
10. HEAVY STEEL FABRICATION—including shipbuilding.
11. ELECTRICAL EQUIPMENT MANUFACTURING.
12. MACHINE SHOPS—automotive, light machine work.
13. GLASS & CERAMICS—ceramic products, bricks, etc.
14. MEAT PACKING.
15. METAL MINING.
16. METAL STAMPING—power press.
18. MISCELLANEOUS—
 - 18B—Laundries and dry cleaning.
 - 18D—Printing.
 - 18E—Salt Manufacturing.
 - 18F—Mercantile—retail stores.
 - 18G—Hotels and restaurants.
 - 18H—Hospitals and public institutions.
 - 18J—Restaurants only.
 - 18K—Warehouses.
19. PULP & PAPER—Manufacturing, including box manufacturing.
20. PETROLEUM—all operations.
21. PUBLIC UTILITIES—all operations.
 - 21A—Electric power only.
 - 21B—Gas only—not pipe lines.
22. RUBBER Manufacturing.
24. RAILROAD.
25. STEEL MANUFACTURING—rolling mills, etc., no fabricating.
26. TANNERS & LEATHER MANUFACTURING.
27. INTER-CITY BUS.
28. TEXTILE—all operations.
29. WOODWORKING—logging and lumbering.
30. WOODWORKING—Manufacturing.
31. MARINE—vessel operations.
 - 31A—Stevedoring.
32. TRAFFIC SAFETY—state departments.
33. AERONAUTICAL—Transportation and Manufacturing.
35. TAXICAB.
36. TRUCKING.
37. LOCAL COUNCIL.
38. VEHICLE MAINTENANCE—garages, repair shops and maintenance.

TO USE POSTERS MOST EFFECTIVELY

The worth of the safety poster has been demonstrated so often that there can be no question about its value in any industry program. Invariably it proves an effective medium for attracting the employees' attention and getting across a safety message that will stick.

Here are four general rules to make your poster program more successful:

1. **Select posters for variety.** Select a balanced supply of posters in a variety of sizes and a proper proportion of thought-provoking vs. inspirational, serious vs. humor, long-message vs. short-message "flash" types.

2. **Place posters strategically.** Test the effectiveness of many different locations. Use "flash" type posters where traffic keeps moving. Long message posters are more effective in washrooms, stockrooms, lunchrooms, smoking areas—places where traffic moves slowly or can stop easily—and in work areas or near hazardous operations.

3. **Display posters attractively.** Provide board or frames for displaying your posters. Most important of all, see that your posters are illuminated adequately. Never gang up a large display of posters. Three on a single bulletin board are usually the maximum. Keep them apart from other material on the board.

4. **Change posters frequently.** Posters not intended for permanent display should be changed once a week. Try to add to or change some part of the board each day, using news items, announcements, photographs, etc.

The National Safety Council's Safe Practices Pamphlet No. 38, "Safety Posters and Bulletin Boards," contains more detailed discussion and illustrations of effective poster use.

TO PLAN YOUR POSTER SELECTIONS

Posters should be selected on the basis of plant accident experience. For example, if 15 per cent of the accidents occur in handling materials, approximately that proportion per month should be aimed at this objective. A further breakdown might be made by choosing a poster on lifting every two months, with other posters on carrying, using hand trucks, use of gloves, safety shoes, etc., at specified intervals. The same procedure can be followed for other principal sources of injury.

Seasonal, housekeeping, first aid, fire and other general subjects should be scheduled regularly. Several posters per year can cover observing signs, reporting conditions and accidents, horseplay, and off-the-job accidents. These are shown in the 1952 Poster Directory under "Miscellaneous."

Chart your program. On the adjoining page is shown a carefully-planned sample poster program for a smaller plant. It is based on a total of 192 posters per year—16 for each month, providing a regular change of posters at four posting locations. Remember, this is only a general plan, based on 16 posters monthly. Your accident experience and required posters will be different. Your requirements may call for not only a different quantity, but also greater numbers of certain types of posters. Of course, posters in addition to your normal needs should be purchased for special occasions. This plan is based on experiments conducted over the past three years at the Council.

Select posters objectively. Check marks have been placed in each square at the outset to give an even coverage of subjects throughout the year. When a poster is selected for the month in which check mark appears, the poster number should be listed in the space. We have made a sample selection of posters for January for the purposes of illustration.

New posters. Refer to the current issue of NATIONAL SAFETY NEWS, then select and list on your chart the numbers of the new posters you require. You are the judge of the subject under which each new poster should be classified. If your schedule for the month does not provide for the subject covered by a new poster, list the new poster for some future month when that subject is scheduled. Changes can be made in the plan at any time simply by transposing check marks to keep chart in balance horizontally and vertically.

Additional posters. For the remaining posters on your schedule for the month, refer to the Poster Directory and list numbers of the most appropriate posters in the proper spaces. Where "other" is shown under various subjects, you might select more specific posters within that category to fit your needs.

NOTE: Check mark on chart indicates month during which posters should be ordered for use during first or second month following; i.e., if you refer to January NATIONAL SAFETY NEWS, new posters shown are for February and March use. Obviously, it is desirable to anticipate your needs (for seasonal and other reasons) and to order your posters accordingly. This plan allows time for filling of orders, shipping, and sometimes re-distribution by the safety department to out-of-town points.

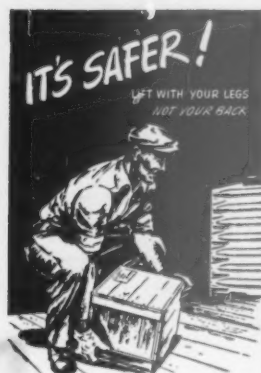
By following the above procedure, you will have a planned schedule of posters to order each month and your chart will provide a working record of posters which have been previously chosen from the Directory. To preclude duplication, make a note on the miniatures in the Directory the month they were selected.

While this method of poster selection is similar to the one employed at National Safety Council in choosing posters for Automatic Poster Service for special industries, time does not permit Council engineers to select posters on this form for a particular plant or location.

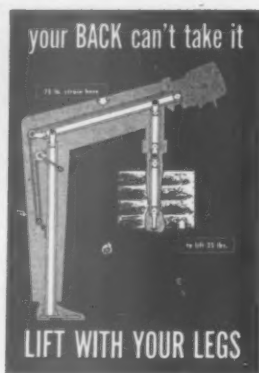
You may have additional copies of the Poster Distribution Chart—11" x 17" in size, with only the subjects and months listed—without charge by writing to the National Safety Council. Your own experience might indicate that you make up a chart for each month in much more detail than that provided by the N.S.C. forms.

MATERIALS HANDLING—manual

See also: p. 47—8740-A, 8935-B, 9360-B; p. 50—8068-A, 8788-A; p. 51—9377-A.



NATIONAL SAFETY COUNCIL
8266-B 17x23



NATIONAL SAFETY COUNCIL
8189-B 17x23



NATIONAL SAFETY COUNCIL
7813-B 17x23



NATIONAL SAFETY COUNCIL
9443-A 8 1/2x11 1/2

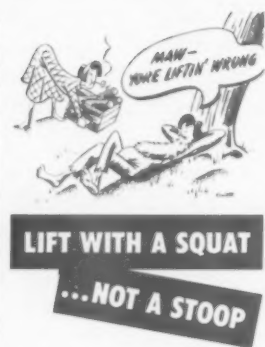
POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL
9019-A 8 1/2x11 1/2



7150-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9232-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8626-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
7451-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7499-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9380-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7583-A 8 1/2x11 1/2

when lifting a sack...

USE
YOUR
LEGS



not your back!

NATIONAL SAFETY COUNCIL
7740-A 8 1/2x11 1/2



LIFT HEAVY
SACKS SAFELY

1. Bend knees, keep back straight. Grasp sack at shoulder level.
2. Lift sack by arm across the strengthening zone.
3. Avoid the heavy sack. When you can't lift, ask for help.



NATIONAL SAFETY COUNCIL
8182-A 8 1/2x11 1/2

BE BRIGHT
LIFT RIGHT



FIRM FOOTING
BACK STRAIGHT
LIFT WITH THE
LEGS

NATIONAL SAFETY COUNCIL
7045-A 8 1/2x11 1/2

AVOID
STRAINS



SPARE YOUR BACK WHEN LIFTING

NATIONAL SAFETY COUNCIL
7514-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
8665-B 17x23

NEVER
TWIST
YOUR
BODY



ALWAYS
SHIFT
YOUR
FEET



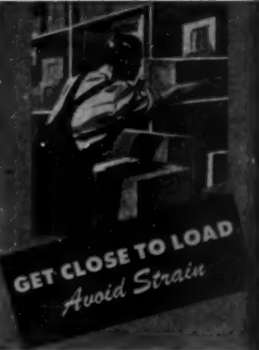
NATIONAL SAFETY COUNCIL
9015-A 8 1/2x11 1/2

THE HARD WAY!

AWKWARD LIFTING
invites
strains



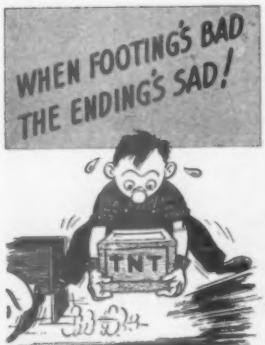
NATIONAL SAFETY COUNCIL
7371-A 8 1/2x11 1/2



GET CLOSE TO LOAD
Avoid Strain

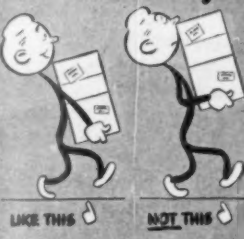
NATIONAL SAFETY COUNCIL
7180-A 8 1/2x11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
8660-A 8 1/2x11 1/2

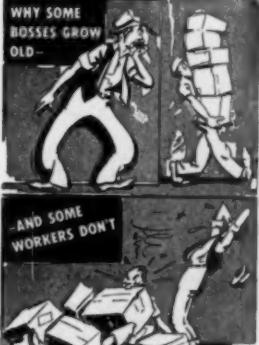
HOW should
Harry Carry?



NATIONAL SAFETY COUNCIL
8586-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8570-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8439-B 17x23



NATIONAL SAFETY COUNCIL
8876-B 17x23



NATIONAL SAFETY COUNCIL
8784-B 17x23



NATIONAL SAFETY COUNCIL
8500-B 17x23



NATIONAL SAFETY COUNCIL
7185-A 8 1/2 x 11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL
8374-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8880-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8872-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8733-A 8 1/2 x 11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
9125-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8195-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
9276-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8009-A 8 1/2 x 11 1/2



use CAUTION near blind corners

NATIONAL SAFETY COUNCIL
8610-B 17x23



NATIONAL SAFETY COUNCIL
8794-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7329-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8488-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
7014-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9415-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8565-B 17x23



NATIONAL SAFETY COUNCIL
8786-A 8 1/2x11 1/2

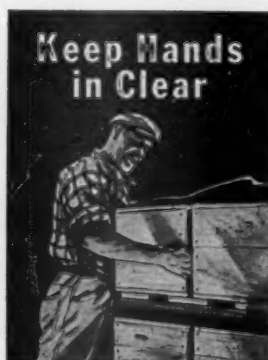
WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
7639-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8582-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7291-A 8 1/2x11 1/2



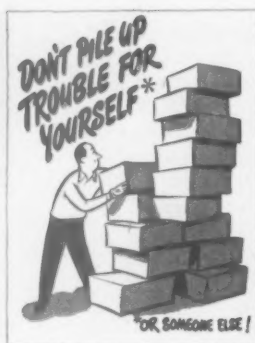
NATIONAL SAFETY COUNCIL
7419-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9292-B

17x23



NATIONAL SAFETY COUNCIL

8893-B

17x23



Careless Piling Causes Trouble!

NATIONAL SAFETY COUNCIL

8644-A

8 1/2x11 1/2

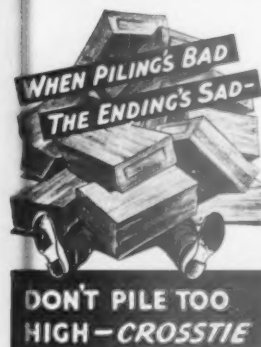


NATIONAL SAFETY COUNCIL

8473-A

8 1/2x11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

8490-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8959-A

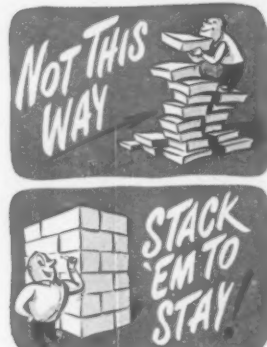
8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8956-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8785-A

8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL

9400-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9270-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9204-B

17x23



NATIONAL SAFETY COUNCIL

9207-A

8 1/2x11 1/2



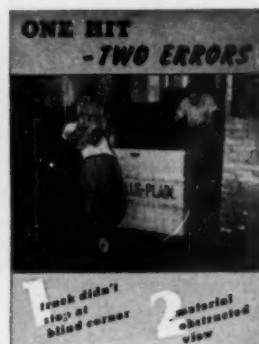
NATIONAL SAFETY COUNCIL
8543-B 17x23



NATIONAL SAFETY COUNCIL
9300-B 17x23



NATIONAL SAFETY COUNCIL
8907-B 17x23

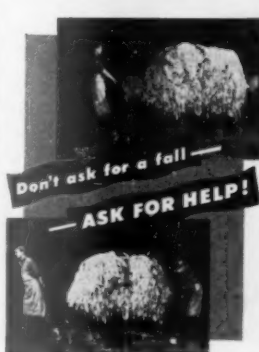


NATIONAL SAFETY COUNCIL
9023-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
8884-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8745-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8820-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8070-A 8 1/2x11 1/2

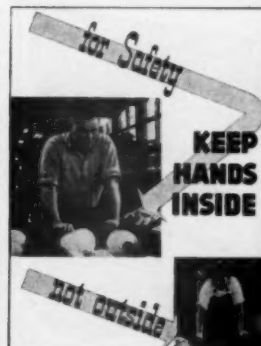
WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
8636-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8625-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8937-A 8 1/2x11 1/2



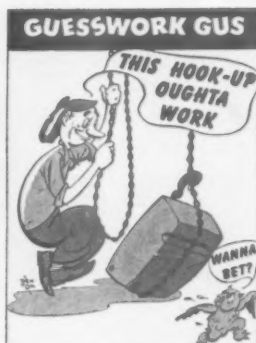
NATIONAL SAFETY COUNCIL
7879-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9235-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9218-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8649-A 8 1/2x11 1/2

HANDLING HEAVY MATERIAL



NATIONAL SAFETY COUNCIL
9352-A 8 1/2x11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



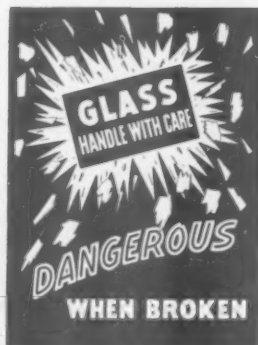
NATIONAL SAFETY COUNCIL
9189-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9163-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8812-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9419-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
7732-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8335-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9006-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9334-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8550-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8545-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9458-A

8 1/2x11 1/2

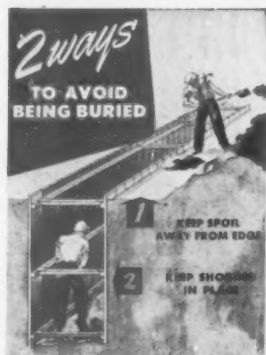


NATIONAL SAFETY COUNCIL

8242-B

17x23

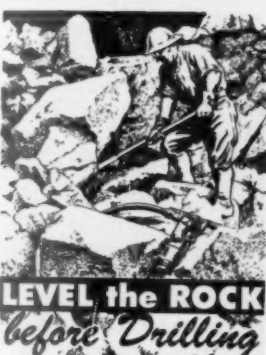
POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL

7877-A

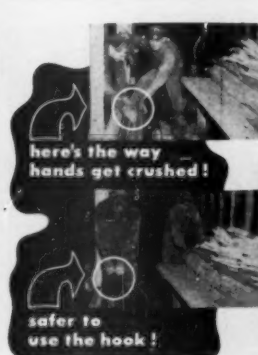
8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8282-A

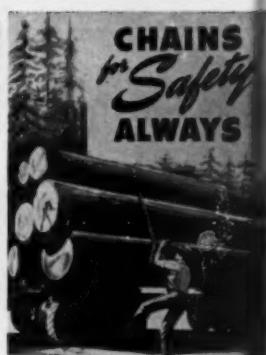
8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9417-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

7502-B

17x23

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL

7537-B

17x23



NATIONAL SAFETY COUNCIL

6241-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

7935-A

8 1/2x11 1/2



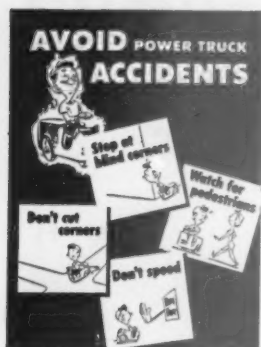
NATIONAL SAFETY COUNCIL

7536-A

8 1/2x11 1/2

MATERIALS HANDLING—mechanical

See also: p. 9—7639-A, 8582-A; p. 12—8649-A; p. 13—7537-B, 9458-A; p. 17—8967-A; p. 20—6102-A; p. 42—7644-B; p. 49—7757-A, 8548-A; p. 62—8355-B.



NATIONAL SAFETY COUNCIL

8858-B

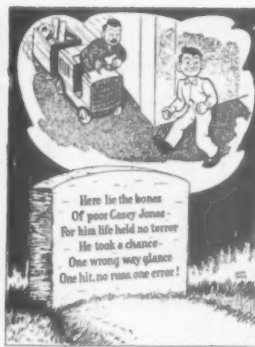
17x23



NATIONAL SAFETY COUNCIL

8850-B

17x23



NATIONAL SAFETY COUNCIL

9234-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8158-A

8 1/2x11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

8857-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8768-A

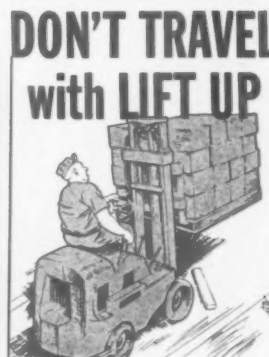
8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9430-B

17x23

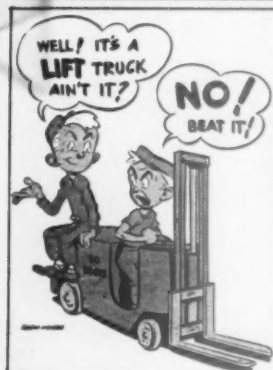


NATIONAL SAFETY COUNCIL

7549-B

17x23

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL

7921-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8159-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9219-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9107-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9208-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8759-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8881-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
6033-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
7320-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8646-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7367-A 8 1/2x11 1/2

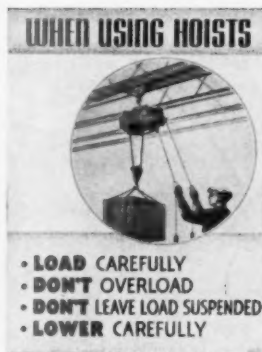


NATIONAL SAFETY COUNCIL
7325-A 8 1/2x11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
7438-B 17x23



NATIONAL SAFETY COUNCIL
7119-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9213-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8046-A 8 1/2x11 1/2

MACHINERY

See also: p. 47; p. 21—9302-A; p. 27—7685-A; p. 33—8307-A; p. 41—8854-A; p. 53—8396-A, 9425-A; p. 59—9018-A; p. 62—8077-B, 8210-A.



NATIONAL SAFETY COUNCIL

9184-A

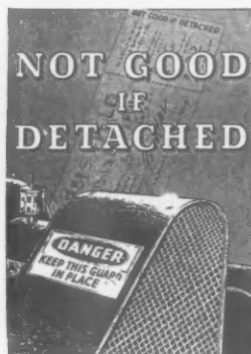
8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9269-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8166-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8311-A

8 1/2 x 11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

8375-B

17 x 23



NATIONAL SAFETY COUNCIL

9016-B

17 x 23



NATIONAL SAFETY COUNCIL

7586-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9395-A

8 1/2 x 11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL

8279-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9082-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9284-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8463-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8101-A

8½x11½



Before oiling, repairing, adjusting

8992-A

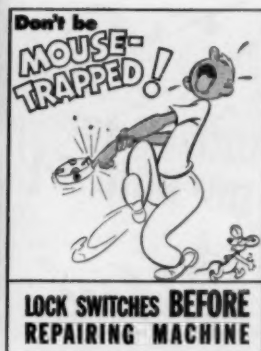
8½x11½



NATIONAL SAFETY COUNCIL

7413-B

17x23

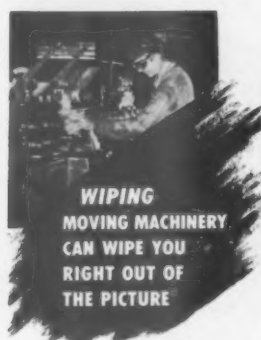


NATIONAL SAFETY COUNCIL

8557-B

17x23

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL

9435-A

8½x11½



NATIONAL SAFETY COUNCIL

9087-A

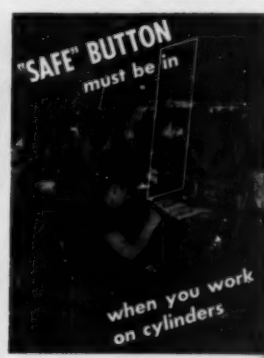
8½x11½



NATIONAL SAFETY COUNCIL

9406-A

8½x11½



NATIONAL SAFETY COUNCIL

9012-A

8½x11½

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL

9185-A

8½x11½



NATIONAL SAFETY COUNCIL

9433-A

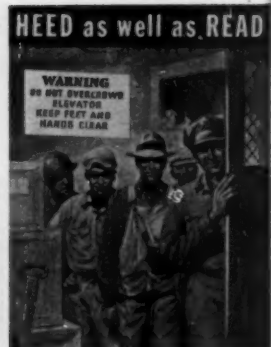
8½x11½



NATIONAL SAFETY COUNCIL

8967-A

8½x11½



NATIONAL SAFETY COUNCIL

7276-A

8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
9093-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
8240-A 8½x11½

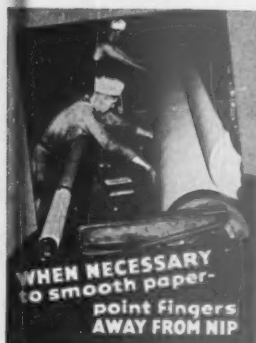


POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
7750-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
9138-A 8½x11½

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
8666-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
6456-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
8425-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
8206-A 8½x11½

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
9168-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
7692-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
5759-A 8½x11½



POSTER IN U.S.A.
NATIONAL SAFETY COUNCIL
8796-A 8½x11½



NATIONAL SAFETY COUNCIL

9305-A 8 1/2x11 1/2

**why YOU
shouldn't wear
loose clothing**



NATIONAL SAFETY COUNCIL

8553-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9426-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8700-A 8 1/2x11 1/2

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**Keep BOTH hands down
until the knife is up**

NATIONAL SAFETY COUNCIL

8856-A 8 1/2x11 1/2



KEEP BOTH HANDS

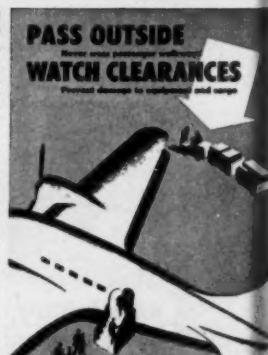
NATIONAL SAFETY COUNCIL

9420-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8378-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8172-A 8 1/2x11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL

8658-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8369-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9121-B 17x23



NATIONAL SAFETY COUNCIL

8368-B 17x23

MOVING MACHINERY

**CAN BE ROUGH
ON YOU!**



STAY CLEAR

NATIONAL SAFETY COUNCIL

8255-A

8 1/2 x 11 1/2

STAY OFF
the Front Bumper!



NATIONAL SAFETY COUNCIL

8792-A

8 1/2 x 11 1/2



there's
NO SAFE WAY
to board a
moving motor

NATIONAL SAFETY COUNCIL

9025-A

8 1/2 x 11 1/2



**LEAVE SWITCH
ALIGNED FOR THE
STRAIGHT**

NATIONAL SAFETY COUNCIL

8683-A

8 1/2 x 11 1/2

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STAND CLEAR

when hoisting

NATIONAL SAFETY COUNCIL

9011-A

8 1/2 x 11 1/2



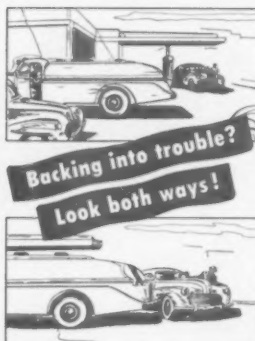
**DAILY
INSPECTION**

**PROMPT
CORRECTION**

**SAVE LIVES—
MAYBE YOURS!**

9293-B

17x23



Backing into trouble?
Look both ways!

NATIONAL SAFETY COUNCIL

8821-A

8 1/2 x 11 1/2



**MIGHTY
SHARP TODAY!**

Be **SHARP** when you
LOOK! STEP! LISTEN!

NATIONAL SAFETY COUNCIL

9169-B

17x23

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



**STAY CLEAR
OF THE SKIP**

NATIONAL SAFETY COUNCIL

7598-A

8 1/2 x 11 1/2



1 IN BACK
OF SHOVEL
2 IN LINE WITH
DIPPER SWING
3 UNDER
THE DIPPER

DANGER

NATIONAL SAFETY COUNCIL

6102-A

8 1/2 x 11 1/2



BLOCK IT

NATIONAL SAFETY COUNCIL

7596-A

8 1/2 x 11 1/2



**STAND
CLEAR
UNTIL
EQUIPMENT
IS TESTED!**

NATIONAL SAFETY COUNCIL

9196-A

8 1/2 x 11 1/2

TOOLS—hand & powered

See also: p. 33—7087-A, 8567-A.



NATIONAL SAFETY COUNCIL
6783-A 8½x11½



NATIONAL SAFETY COUNCIL
9040-B 17x23



NATIONAL SAFETY COUNCIL
9301-A 8½x11½



NATIONAL SAFETY COUNCIL
9302-A 8½x11½

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NATIONAL SAFETY COUNCIL
7212-A 8½x11½



NATIONAL SAFETY COUNCIL
7626-A 8½x11½



NATIONAL SAFETY COUNCIL
6317-A 8½x11½

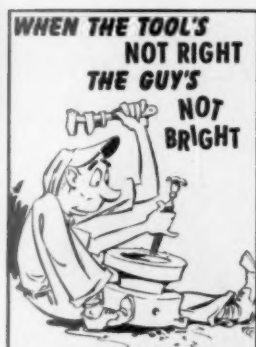


NATIONAL SAFETY COUNCIL
7091-A 8½x11½

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
9217-A 8½x11½



NATIONAL SAFETY COUNCIL
8838-A 8½x11½



NATIONAL SAFETY COUNCIL
9145-A 8½x11½



NATIONAL SAFETY COUNCIL
8818-A 8½x11½

continuing—**TOOLS**—hand & powered



NATIONAL SAFETY COUNCIL

8811-B

17x23



IT PAYS TO KEEP TOOLS IN GOOD CONDITION!

NATIONAL SAFETY COUNCIL

8100-A

8 1/2x11 1/2



CHECK 'EM BEFORE YOU USE 'EM!

9035-B

17x23



If it's defective, TURN IT IN!

8913-A

8 1/2x11 1/2

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NATIONAL SAFETY COUNCIL

8124-B

17x23



NATIONAL SAFETY COUNCIL

8901-A

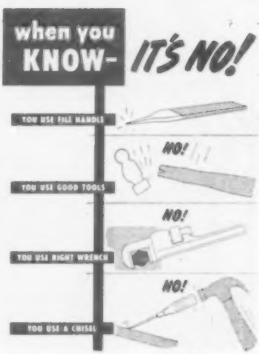
8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9085-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9136-B

17x23

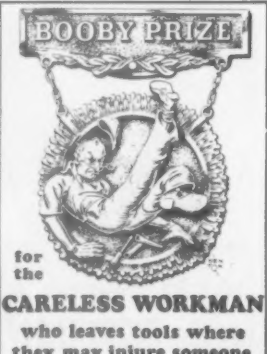
SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL

9090-B

17x23



NATIONAL SAFETY COUNCIL

7812-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

5420-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

7979-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9228-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
6835-A 8 1/2x11 1/2

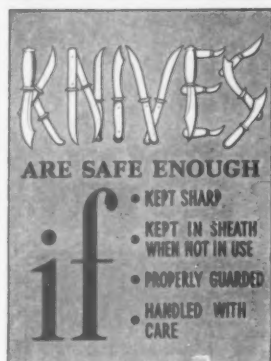


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8885-B 17x23

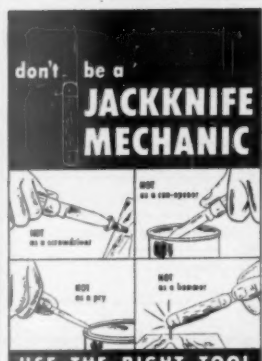


NATIONAL SAFETY COUNCIL
8668-A 8 1/2x11 1/2

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NATIONAL SAFETY COUNCIL
6451-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8447-B 17x23



NATIONAL SAFETY COUNCIL
9102-B 17x23



NATIONAL SAFETY COUNCIL
8819-A 8 1/2x11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
9124-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7443-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9396-A 8 1/2x11 1/2



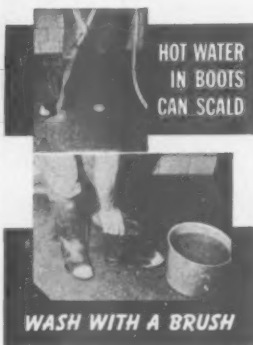
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8468-A 8 1/2x11 1/2



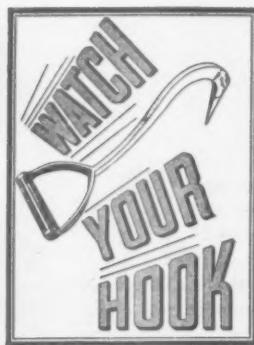
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7449-A 8½x11½



NATIONAL SAFETY COUNCIL
8464-A 8½x11½



NATIONAL SAFETY COUNCIL
8645-A 8½x11½



NATIONAL SAFETY COUNCIL
6299-A 8½x11½

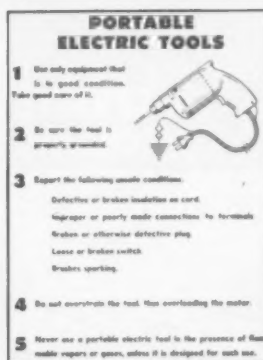
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NATIONAL SAFETY COUNCIL
9368-A 8½x11½



NATIONAL SAFETY COUNCIL
7473-A 8½x11½



NATIONAL SAFETY COUNCIL
7736-A 8½x11½

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



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7967-A 8½x11½



NATIONAL SAFETY COUNCIL
7463-A 8½x11½



NATIONAL SAFETY COUNCIL
9416-A 8½x11½



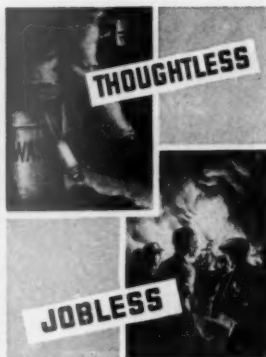
NATIONAL SAFETY COUNCIL
8456-A 8½x11½

FIRE & EXPLOSION

See also: p. 34; p. 7—7740-A, 8660-A; p. 12—9334-A; p. 45—9251-A; p. 53—8837-A.



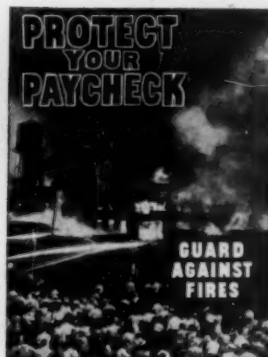
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8784-B 17x23



NATIONAL SAFETY COUNCIL
8617-B 17x23



NATIONAL SAFETY COUNCIL
8730-B 17x23



NATIONAL SAFETY COUNCIL
8791-B 17x23

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9370-B 17x23



NATIONAL SAFETY COUNCIL
8174-B 17x23



NATIONAL SAFETY COUNCIL
9123-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9449-A 8 1/2x11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
8920-A 8 1/2x11 1/2



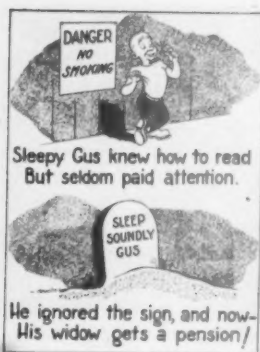
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9440-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8253-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8302-B 17x23



NATIONAL SAFETY COUNCIL
8891-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8229-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9288-A 8 1/2x11 1/2



7773-A 8 1/2x11 1/2

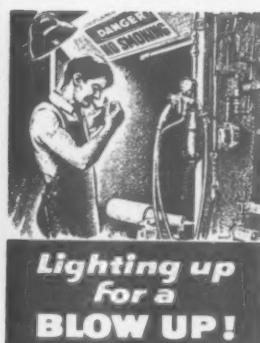
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NATIONAL SAFETY COUNCIL
8994-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8691-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8633-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
8960-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9091-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8851-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
W.C.34 17x23



NATIONAL SAFETY COUNCIL

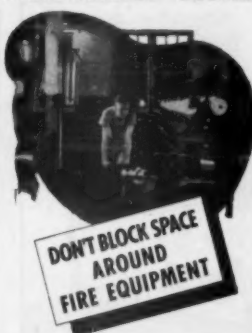
9088-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8704-A 8 1/2x11 1/2

KEEP AISLES CLEAR!



NATIONAL SAFETY COUNCIL

7777-A 8 1/2x11 1/2

Know where they are



and know how to use them

NATIONAL SAFETY COUNCIL

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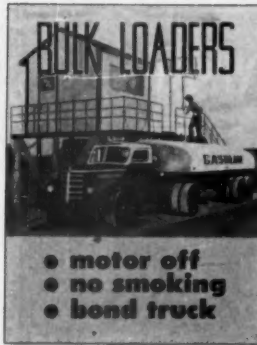
NATIONAL SAFETY COUNCIL

8763-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9280-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8919-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8707-A 8 1/2x11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS

Avoid Explosion Accidents When WELDING CONTAINERS



NATIONAL SAFETY COUNCIL

W.C.32 17x23

FIRE EXTINGUISHER FACTS

TYPE OF EXTINGUISHER	FOR WHAT KIND OF FIRE	COMPONENTS	HOW TO EXIST	SAFETY AND CAUTION
WATER	CLASS A	Water, nozzle, hose, handle, trigger gun, pressure tank, and safety pin.	Point nozzle at base of fire.	Do not use on electrical fires or fires involving oil, gas, or other flammable liquids.
FOAM	CLASS A	Water, foam, nozzle, hose, handle, trigger gun, pressure tank, and safety pin.	Point nozzle at base of fire.	Do not use on electrical fires or fires involving oil, gas, or other flammable liquids.
CO2	CLASS B	Carbon dioxide, nozzle, hose, handle, trigger gun, pressure tank, and safety pin.	Point nozzle at base of fire.	Do not use on electrical fires or fires involving oil, gas, or other flammable liquids.
DRY CHEMICAL	CLASS A, B, C	Dry chemical, nozzle, hose, handle, trigger gun, pressure tank, and safety pin.	Point nozzle at base of fire.	Do not use on electrical fires or fires involving oil, gas, or other flammable liquids.

NATIONAL SAFETY COUNCIL

8414-B 17x23

FIRE EXTINGUISHMENT

Keep extinguishers in the clean, do not tamper with them. Know where they are and how to use them.

In case of fire:

1. Pull to see alarm or cover.
2. Use the right type of extinguisher.
3. Use equipment correctly. Do not delay.
4. Hold nozzle at base of fire.
5. Be sure the equipment is ready for re-use.



NATIONAL SAFETY COUNCIL

7685-A 8 1/2x11 1/2

Know How to Use SODA-ACID EXTINGUISHERS



NATIONAL SAFETY COUNCIL

W.C.23 17x23

FIRST AID & HEALTH

See also: p. 9—8565-B; p. 31—9063-A; p. 33—8572-A, 8831-A; p. 43—8751-B; p. 55—8180-A, 8304-A.



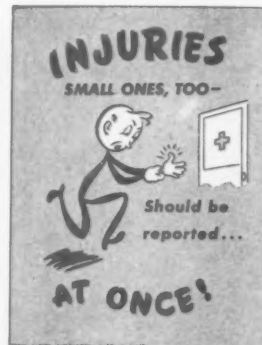
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NATIONAL SAFETY COUNCIL
8702-B 17x23

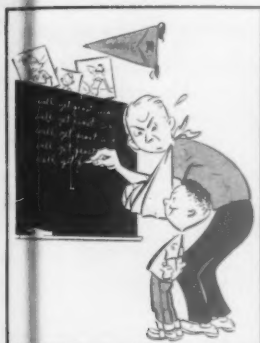


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8651-B 17x23

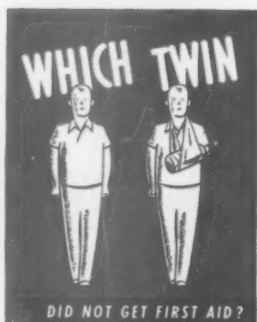


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9397-A 8 1/2x11 1/2
9468-C 25x38



NATIONAL SAFETY COUNCIL
9182-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7997-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8989-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
9303-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9158-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8997-A 8 1/2x11 1/2
9216-C 25x38



NATIONAL SAFETY COUNCIL
7460-A 8 1/2x11 1/2



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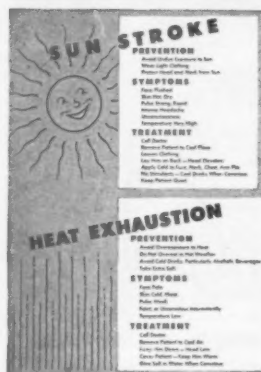


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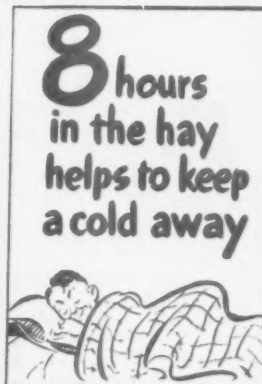
continuing—FIRST AID & HEALTH



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NATIONAL SAFETY COUNCIL
7520-A 8 1/2x11 1/2

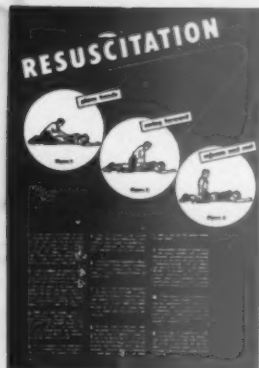


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7975-A 8 1/2x11 1/2



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7017-B 17x23

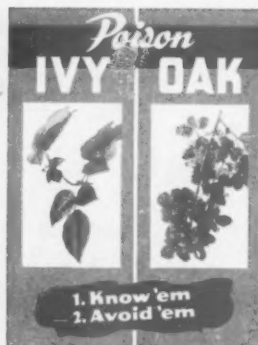
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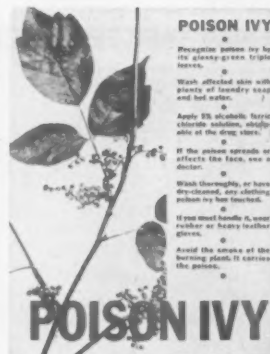
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8214-B 17x23



7769-B 17x23



NATIONAL SAFETY COUNCIL
8690-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7257-A 8 1/2x11 1/2

CHEMICALS & GASES

See also: p. 43—9157-A; p. 44—7747-A; p. 47—8589-A; p. 48—8164-A, 9421-A.



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7450-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8638-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7870-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8483-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8701-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9063-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8114-A

8 1/2x11 1/2

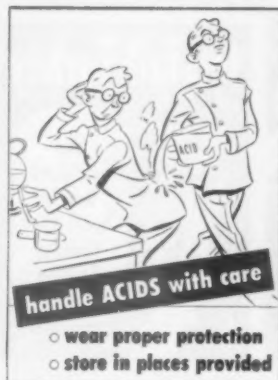


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9137-A

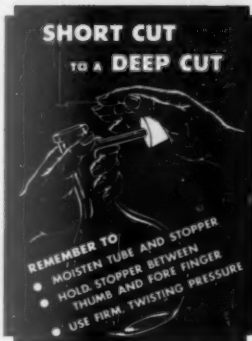
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8257-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9271-A

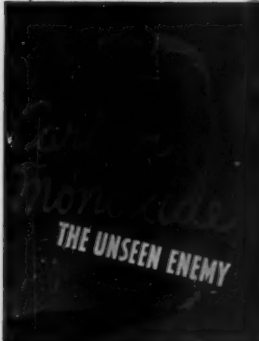
8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9398-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

V-6643-A

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8813-A

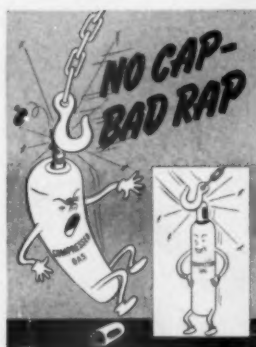
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NATIONAL SAFETY COUNCIL

7401-B

17x23



NATIONAL SAFETY COUNCIL

9097-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8766-A

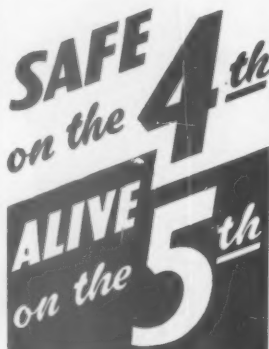
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SEASONAL & HOLIDAY

See also: p. 29; p. 6—7583-A; p. 20—9169-B; p. 21—8918-A; p. 35—7501-A, 9155-A; p. 40—T-8563-B; p. 64—V-8674-B.



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8983-B 17x23

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PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
8084-A 8 1/2x11 1/2



PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
8309-B 17x23



PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
8846-A 8 1/2x11 1/2



PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
9373-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
9326-B 17x23



PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
8839-A 8 1/2x11 1/2



PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
8578-A 8 1/2x11 1/2

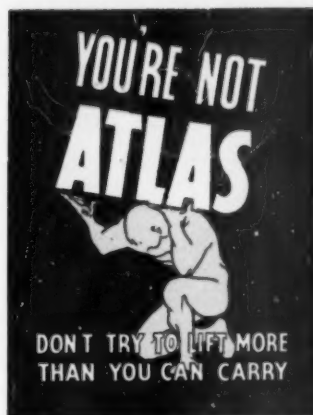


PRINTED IN U.S.A.
NATIONAL SAFETY COUNCIL
9197-A 8 1/2x11 1/2
9452-C 25x38

FOUR-COLOR POSTERS—all subjects



NATIONAL SAFETY COUNCIL
9210-A 8 1/2 x 11 1/2



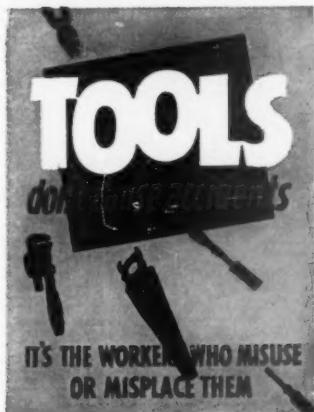
NATIONAL SAFETY COUNCIL
6235-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8773-A 8 1/2 x 11 1/2



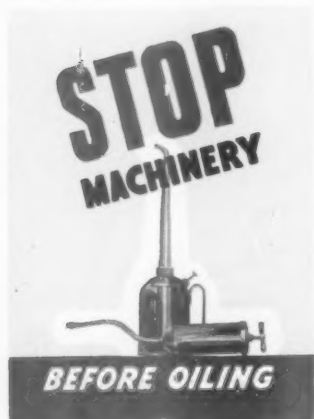
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6540-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8567-A 8 1/2 x 11 1/2



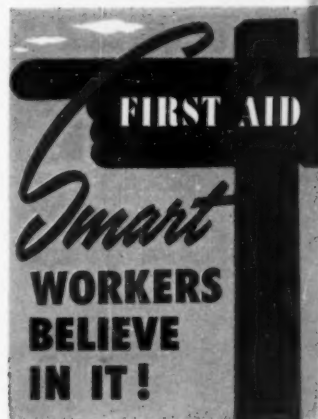
NATIONAL SAFETY COUNCIL
7097-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8307-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8831-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8572-A 8 1/2 x 11 1/2

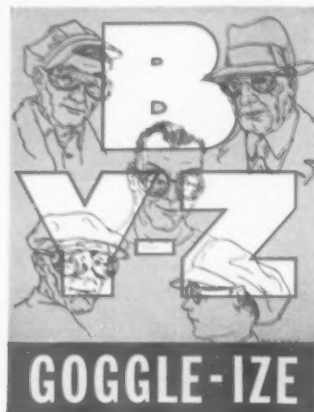
continuing—**FOUR COLOR POSTERS—all subjects**



8469-A 8½x11½



8457-A 8½x11½



9180-A 8½x11½



NATIONAL SAFETY COUNCIL
8523-A 8½x11½



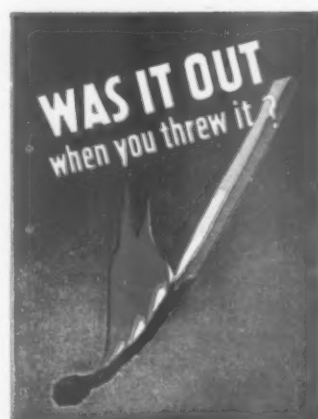
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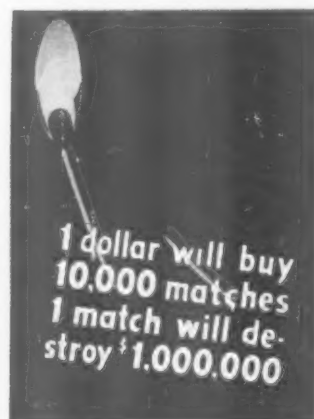
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8790-A 8½x11½



NATIONAL SAFETY COUNCIL
9369-A (Day-Glo) 8½x11½



NATIONAL SAFETY COUNCIL
6709-A 8½x11½

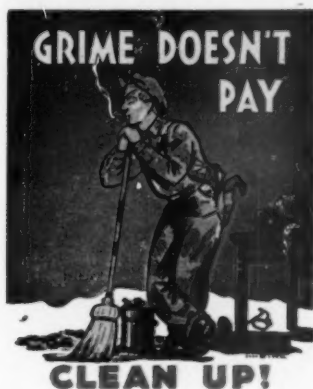


NATIONAL SAFETY COUNCIL
6275-A 8½x11½

continuing—**FOUR-COLOR POSTERS**—all subjects



NATIONAL SAFETY COUNCIL
7441-A 8½x11½



NATIONAL SAFETY COUNCIL
6676-A 8½x11½



NATIONAL SAFETY COUNCIL
7353-A 8½x11½



NATIONAL SAFETY COUNCIL
7845-A 8½x11½



NATIONAL SAFETY COUNCIL
9177-A 8½x11½



NATIONAL SAFETY COUNCIL
8358-A 8½x11½



8995-A 8½x11½



NATIONAL SAFETY COUNCIL
7501-A 8½x11½



9155-A 8½x11½

continuing—**FOUR-COLOR POSTERS**—all subjects



NATIONAL SAFETY COUNCIL

8630-A

8 1/2x11 1/2



8004-A

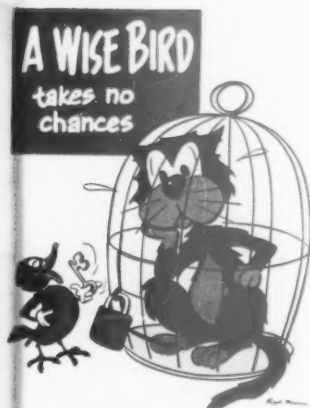
8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8742-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9367-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8976-A

8 1/2x11 1/2



KALF WELLS

NATIONAL SAFETY COUNCIL

8299-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8612-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8333-A

8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8664-A

8 1/2x11 1/2

continuing—**FOUR-COLOR POSTERS**—all subjects



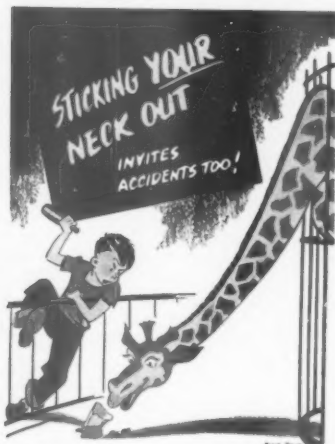
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9339-A 8½x11½



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9070-A 8½x11½



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9268-A 8½x11½



9211-A 8½x11½



NATIONAL SAFETY COUNCIL
9166-A 8½x11½



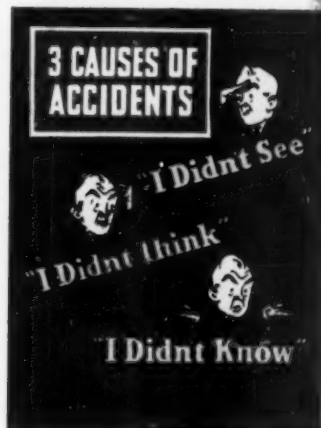
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9098-A 8½x11½



NATIONAL SAFETY COUNCIL
8938-A 8½x11½



NATIONAL SAFETY COUNCIL
9466-A 8½x11½



7928-A 8½x11½



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9233-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8580-A 8 1/2x11 1/2



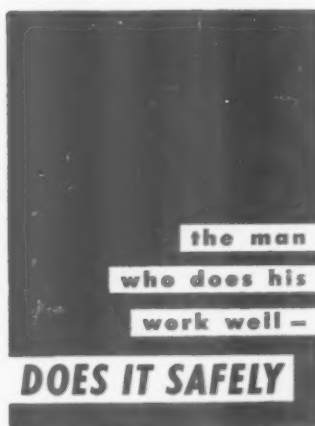
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8392-A 8 1/2x11 1/2



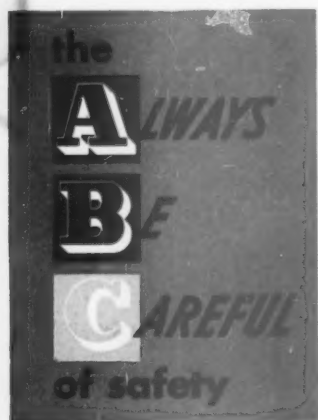
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8934-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8754-A 8 1/2x11 1/2



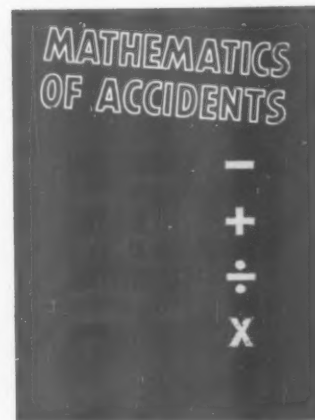
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8364-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8921-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8925-A 8 1/2x11 1/2

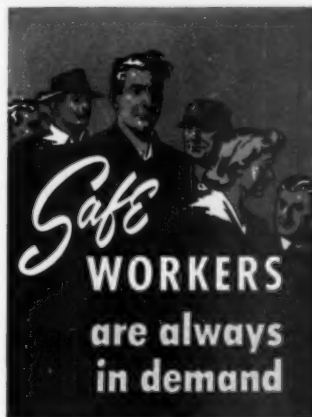


NATIONAL SAFETY COUNCIL
6661-A 8 1/2x11 1/2



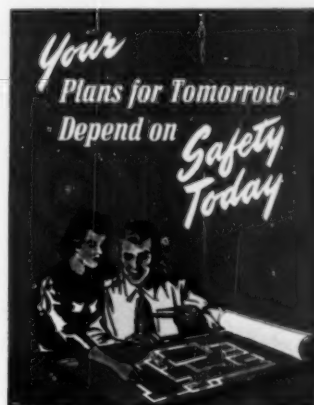
8789-A

8½x11½



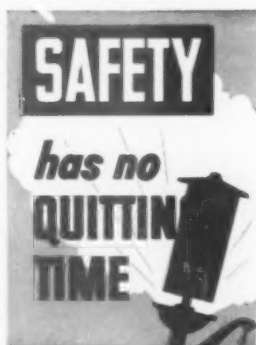
8360-A

8½x11½



8886-A

8½x11½



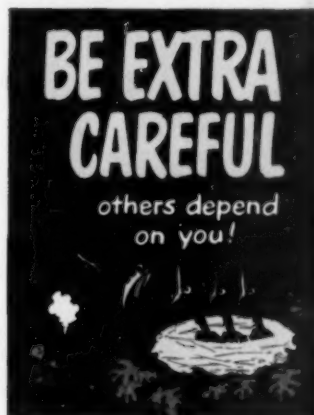
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8½x11½



8262-A

8½x11½



9286-A

8½x11½



8391-A

8½x11½



8163-A

8½x11½



8466-A

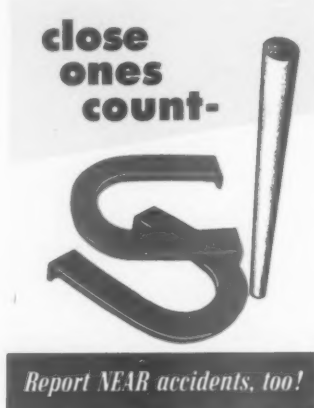
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continuing—**FOUR-COLOR POSTERS**—all subjects



9436-A

8½x11½



9167-A

8½x11½



8431-A

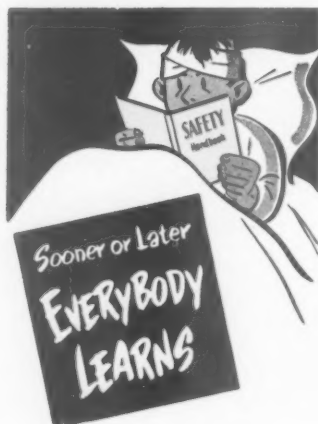
8½x11½



**Don't Let Death
Take YOUR Holiday!**

T-8563-B

17x23



8990-A

8½x11½



V-4277-A

8½x11½



V-8652-A

8½x11½



V-8462-A

8½x11½



V-6356-A

8½x11½

ELECTRICITY

See also: p. 24—7374-A, 7473-A, 9368-A; p. 26—W.C.34; p. 48—9387-A.



NATIONAL SAFETY COUNCIL
7420-A 8½x11½



NATIONAL SAFETY COUNCIL
W.C.15 17x23



NATIONAL SAFETY COUNCIL
7088-A 8½x11½



NATIONAL SAFETY COUNCIL
8854-A 8½x11½

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
8964-B 17x23



NATIONAL SAFETY COUNCIL
8914-A 8½x11½



NATIONAL SAFETY COUNCIL
9346-B 17x23



NATIONAL SAFETY COUNCIL
8121-A 8½x11½

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
9344-A 8½x11½



NATIONAL SAFETY COUNCIL
5988-A 8½x11½



NATIONAL SAFETY COUNCIL
7099-A 8½x11½



NATIONAL SAFETY COUNCIL
7595-A 8½x11½



5694-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9081-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9422-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9181-A

8 1/2 x 11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

9256-A

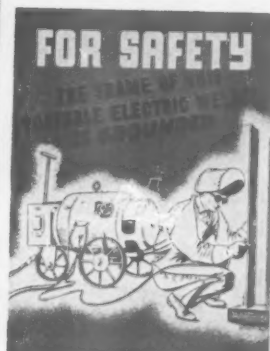
8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

W.C.17

17x23



NATIONAL SAFETY COUNCIL

7275-A

8 1/2 x 11 1/2



9164-A

8 1/2 x 11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION

check YOUR EQUIPMENT to check ACCIDENTS

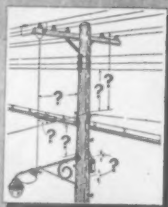


NATIONAL SAFETY COUNCIL

8817-A

8 1/2 x 11 1/2

How are CLEARANCES ?



Use PROTECTIVE EQUIPMENT

NATIONAL SAFETY COUNCIL

8590-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

7644-B

17x23



NATIONAL SAFETY COUNCIL

9274-A

8 1/2 x 11 1/2

CLOTHING & PERSONAL PROTECTIVE EQUIPMENT

See also: p. 23—7443-A, 9396-A; p. 24—8645-A; p. 25—9440-A; p. 31—7401-B, 8257-A; p. 42—W.C.17.



NATIONAL SAFETY COUNCIL
9116-B 17x23



NATIONAL SAFETY COUNCIL
8136-A 8 1/2x11 1/2
9429-C 25x38

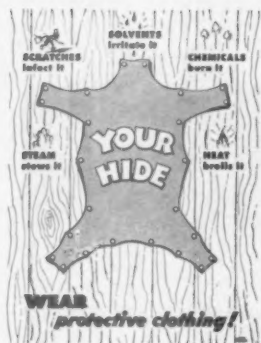


NATIONAL SAFETY COUNCIL
8816-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9402-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
9157-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9143-B 17x23



NATIONAL SAFETY COUNCIL
8987-B 17x23

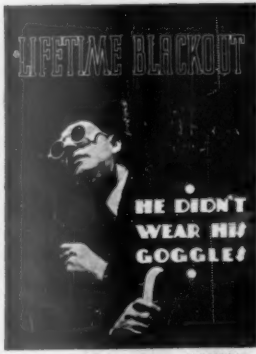


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8751-B 17x23

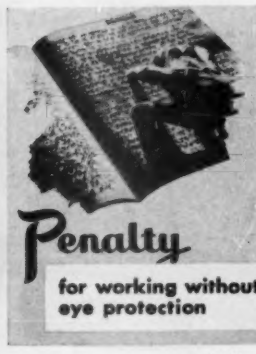
WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
8924-B 17x23



NATIONAL SAFETY COUNCIL
8398-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8616-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9375-A 8 1/2x11 1/2

continuing—**CLOTHING & PERSONAL PROTECTIVE EQT.**

**BELIEVING
IS SEEING**



NATIONAL SAFETY COUNCIL

8939-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9209-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9064-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9148-A

8 1/2 x 11 1/2

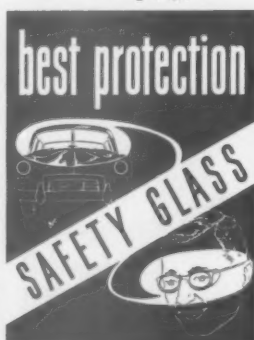
POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

9161-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9226-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

7538-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

7399-A

8 1/2 x 11 1/2

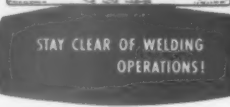
SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL

9366-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9386-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

7747-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8767-A

8 1/2 x 11 1/2

continuing—CLOTHING & PERSONAL PROTECTIVE EQT.

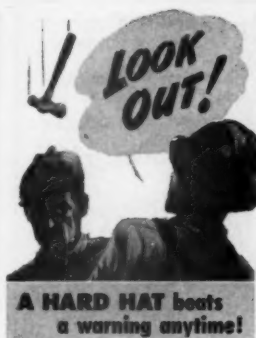
PROTECTIVE EQUIPMENT prevents injury



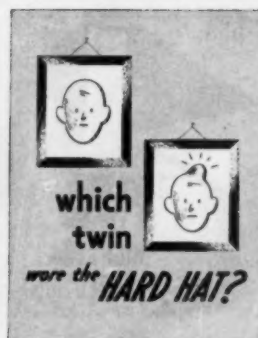
NATIONAL SAFETY COUNCIL
9290-B 17x23



NATIONAL SAFETY COUNCIL
8643-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
9345-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
9183-A 8 1/2 x 11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
9229-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
7893-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
9251-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
9003-A 8 1/2 x 11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS

HEAD PROTECTION

for Women Workers



If you work around machinery, wear a stiff-necked, high-crowned cap. Keep your hair well tucked under it.

For general work—BUT near machinery or moving belts—wear a soft cap, hairnet, or headband to keep your hair and scalp clean.



If you need protection against flying sparks or falling objects, wear a hard safety hat.

Use safety goggles, helmets or face shields as the job may require. Your supervisor will advise you.



NATIONAL SAFETY COUNCIL
7581-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8866-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8440-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
8855-A 8 1/2 x 11 1/2

continuing—CLOTHING & PERSONAL PROTECTIVE EQT.



9231-A 8 1/2x11 1/2



7797-A 8 1/2x11 1/2



9304-A 8 1/2x11 1/2



9165-A 8 1/2x11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



9061-A 8 1/2x11 1/2



8688-A 8 1/2x11 1/2



9212-A 8 1/2x11 1/2



8524-B 17x23

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



8555-A 8 1/2x11 1/2



9186-A 8 1/2x11 1/2



7923-A 8 1/2x11 1/2



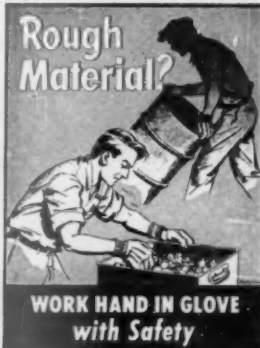
7293-A 8 1/2x11 1/2

continuing—**CLOTHING & PERSONAL PROTECTIVE EQT.**



8935-B

17x23



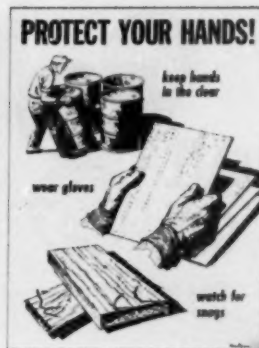
8740-A

8 1/2 x 11 1/2



9306-B

17x23



9360-B

17x23

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



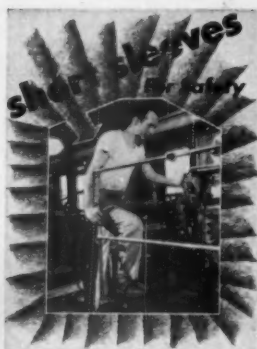
7551-A

8 1/2 x 11 1/2



9277-A

8 1/2 x 11 1/2



8762-A

8 1/2 x 11 1/2



8589-A

8 1/2 x 11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS.



7467-A

8 1/2 x 11 1/2



8743-A

8 1/2 x 11 1/2



7431-A

8 1/2 x 11 1/2



7169-A

8 1/2 x 11 1/2

FALLS

See also: p. 53; p. 14—8159-A, 8768-A; p. 20—8792-A; p. 22—7812-A; p. 35—8358-A, 9177-A; p. 46—7923-A; p. 52—6915-A, 9405-A; p. 58—9140-A; p. 60—7917-A, 9385-A; p. 62—8077-B.



NATIONAL SAFETY COUNCIL

9347-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

7015-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8080-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9387-A 8 1/2 x 11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

9421-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8164-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8834-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8573-A 8 1/2 x 11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL

8787-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8042-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

7222-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

7874-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9014-A 8½x11½



NATIONAL SAFETY COUNCIL

9357-A 8½x11½



NATIONAL SAFETY COUNCIL

8849-A 8½x11½



NATIONAL SAFETY COUNCIL

8351-B 17x23

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL

7757-A 8½x11½



NATIONAL SAFETY COUNCIL

9221-A 8½x11½



NATIONAL SAFETY COUNCIL

9179-A 8½x11½



NATIONAL SAFETY COUNCIL

8268-A 8½x11½

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL

9431-B 17x23



NATIONAL SAFETY COUNCIL

8948-A 8½x11½



NATIONAL SAFETY COUNCIL

9005-A 8½x11½



NATIONAL SAFETY COUNCIL

8548-A 8½x11½



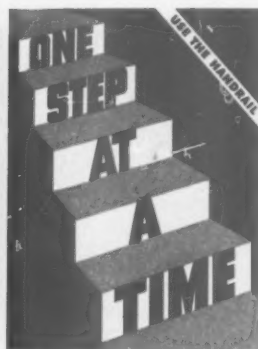
NATIONAL SAFETY COUNCIL

8882-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8877-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9451-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8068-A 8 1/2 x 11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

8788-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9034-B 17 x 23



NATIONAL SAFETY COUNCIL

8615-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9281-A 8 1/2 x 11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL

7007-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8547-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8443-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8099-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
7531-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8793-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9188-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9377-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



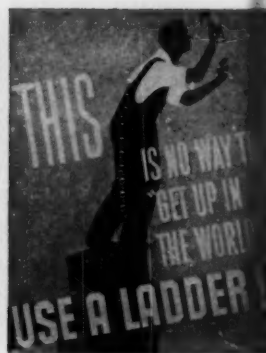
NATIONAL SAFETY COUNCIL
8554-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8835-A 8 1/2x11 1/2



6749-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
6822-A 8 1/2x11 1/2

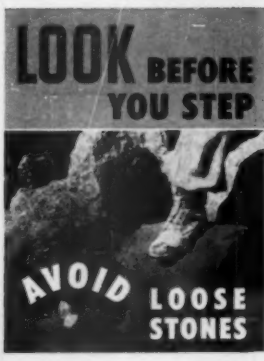
WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
9225-B 17x23



NATIONAL SAFETY COUNCIL
7577-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8393-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9119-B 17x23

HOUSEKEEPING

See also: p. 24—8464-A; p. 26—9288-A, W.C.34; p. 27—7777-A; p. 29—8747-A; p. 35—6676-A, 7353-A, 7441-A; p. 61—8808-A.



NATIONAL SAFETY COUNCIL
8982-B 17x23



NATIONAL SAFETY COUNCIL
8908-B 17x23



NATIONAL SAFETY COUNCIL
7355-B 17x23



NATIONAL SAFETY COUNCIL
8470-B 17x23

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL
8689-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9230-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8678-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7022-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
7217-A 8 1/2x11 1/2
9273-C 25x38



NATIONAL SAFETY COUNCIL
8321-B 17x23



NATIONAL SAFETY COUNCIL
9405-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
6915-A 8 1/2x11 1/2



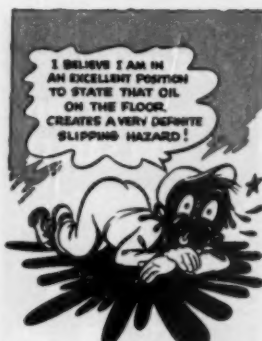
NATIONAL SAFETY COUNCIL
9083-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8669-B 17x23



NATIONAL SAFETY COUNCIL
9425-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8966-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
8420-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7952-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8746-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9130-B 17x23

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL
9187-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8396-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8359-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8837-A 8 1/2x11 1/2

GENERAL APPEAL

See also: p. 36-39; p. 32—9197-A; p. 35—8995-A; p. 49—9221-A; p. 59—9160-A.



NATIONAL SAFETY COUNCIL
9423-B 17x23



NATIONAL SAFETY COUNCIL
9371-A 8½x11½

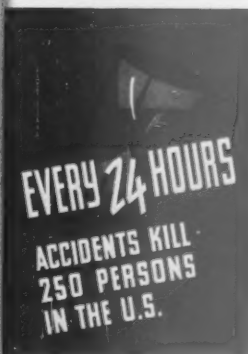


NATIONAL SAFETY COUNCIL
9358-B 17x23



NATIONAL SAFETY COUNCIL
9355-A 8½x11½

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL
9283-B 17x23



NATIONAL SAFETY COUNCIL
9299-C 8½x11½
25x38



NATIONAL SAFETY COUNCIL
9455-B 17x23



NATIONAL SAFETY COUNCIL
9250-B 17x23

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
9032-A 8½x11½



NATIONAL SAFETY COUNCIL
8556-A 8½x11½



NATIONAL SAFETY COUNCIL
8278-B 17x23



NATIONAL SAFETY COUNCIL
8373-A 8½x11½



NATIONAL SAFETY COUNCIL

8917-A
9356-C

8 1/2 x 11 1/2
25 x 38



NATIONAL SAFETY COUNCIL

9024-A

8 1/2 x 11 1/2



PRINTED IN U.S.A.

7745-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9092-A
9249-C

8 1/2 x 11 1/2
25 x 38

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL

9253-B

17 x 23



NATIONAL SAFETY COUNCIL

8940-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8130-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

8304-A

8 1/2 x 11 1/2

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL

9394-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9139-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

9199-B

17 x 23



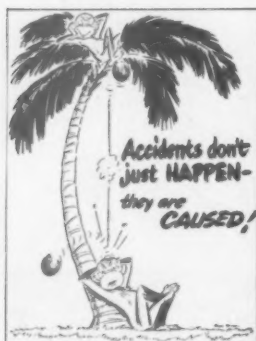
NATIONAL SAFETY COUNCIL

9379-B

17 x 23



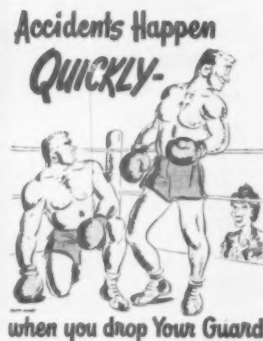
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9224-B 17x23



NATIONAL SAFETY COUNCIL
9343-B 17x23

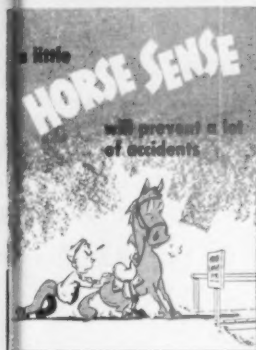


NATIONAL SAFETY COUNCIL
9354-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9376-B 17x23

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL
9289-A 8 1/2x11 1/2
9390-C 25x38



NATIONAL SAFETY COUNCIL
9108-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8614-A 8 1/2x11 1/2

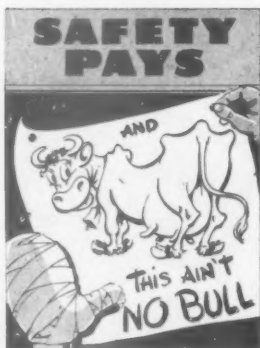


NATIONAL SAFETY COUNCIL
6300-A 8 1/2x11 1/2

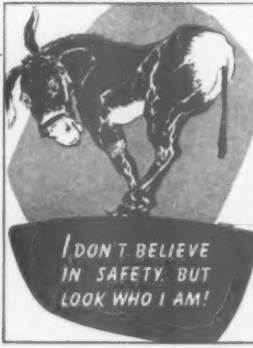
SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
9275-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8988-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9110-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8760-A 8 1/2x11 1/2

continuing—**GENERAL APPEAL**



NATIONAL SAFETY COUNCIL
9021-A 8½x11½



NATIONAL SAFETY COUNCIL
8254-B 17x23



NATIONAL SAFETY COUNCIL
9341-B 17x23



NATIONAL SAFETY COUNCIL
7251-A 8½x11½

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
9279-B 17x23



NATIONAL SAFETY COUNCIL
9340-A 8½x11½



NATIONAL SAFETY COUNCIL
9291-B 17x23



NATIONAL SAFETY COUNCIL
9237-A 8½x11½

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



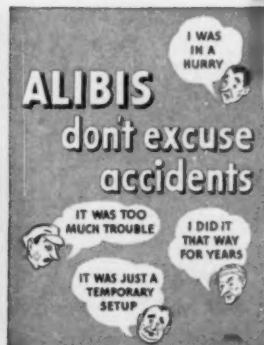
NATIONAL SAFETY COUNCIL
9236-A 8½x11½



NATIONAL SAFETY COUNCIL
9147-A 8½x11½

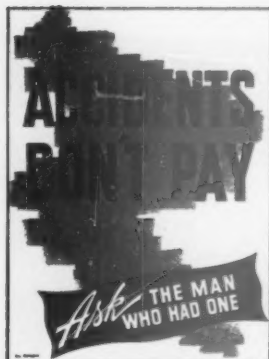


NATIONAL SAFETY COUNCIL
8732-B 17x23



NATIONAL SAFETY COUNCIL
8474-A 8½x11½

continuing—**GENERAL APPEAL**



NATIONAL SAFETY COUNCIL

8475-A
9220-C

8 1/2x11 1/2
25x38



NATIONAL SAFETY COUNCIL

9382-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8978-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9222-B 17x23

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL

9140-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9227-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8422-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

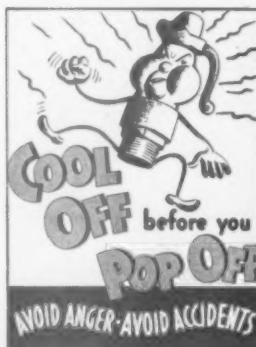
9407-B 17x23

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



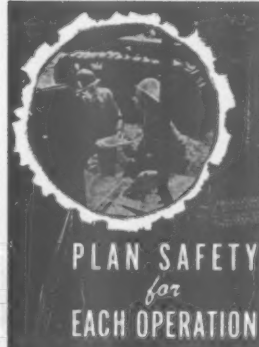
NATIONAL SAFETY COUNCIL

9325-B 17x23



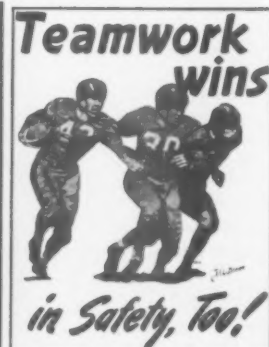
NATIONAL SAFETY COUNCIL

9017-A 8 1/2x11 1/2
9257-C 25x38



NATIONAL SAFETY COUNCIL

8442-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9112-B 17x23

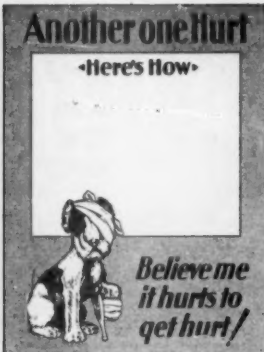
MISCELL'ANEOUS— including horseplay, new employees, score sheets, signs, rules, off-the-job, etc.



NATIONAL SAFETY COUNCIL
8286-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
5722-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
5638-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8433-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL
9160-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8079-A 8 1/2x11 1/2

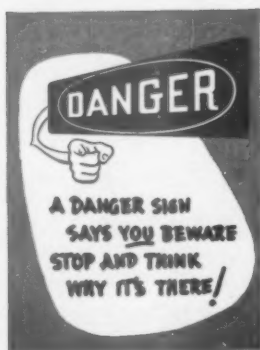


NATIONAL SAFETY COUNCIL
8977-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8575-A 8 1/2x11 1/2
9409-C 25x38

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



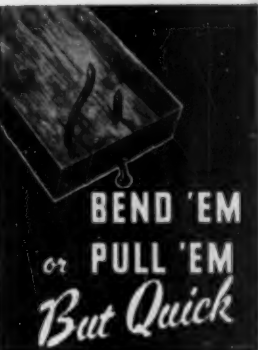
NATIONAL SAFETY COUNCIL
9401-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9129-B 17x23



NATIONAL SAFETY COUNCIL
9018-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9154-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8274-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9285-A 8 1/2x11 1/2

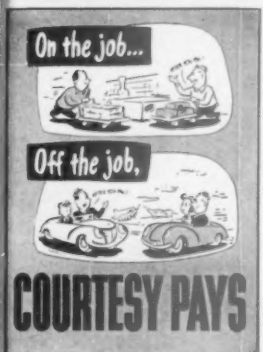


NATIONAL SAFETY COUNCIL
6768-B 17x23

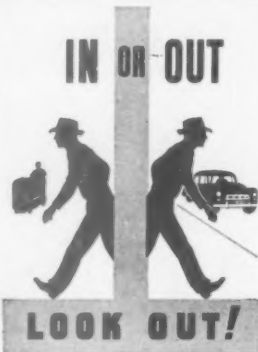


NATIONAL SAFETY COUNCIL
9198-A 8 1/2x11 1/2

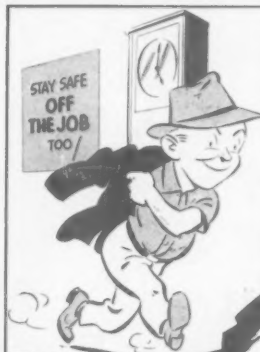
POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL
9282-B 17x23



NATIONAL SAFETY COUNCIL
9223-B 17x23



NATIONAL SAFETY COUNCIL
8175-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9418-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
7917-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8445-B 17x23



NATIONAL SAFETY COUNCIL
5311-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9385-A 8 1/2x11 1/2



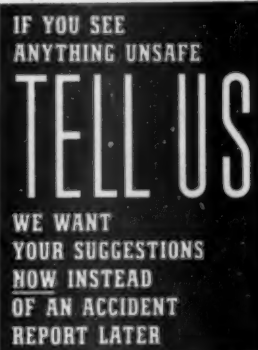
NATIONAL SAFETY COUNCIL

8879-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9278-B 17x23



NATIONAL SAFETY COUNCIL

7079-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8491-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



NATIONAL SAFETY COUNCIL

9080-B 17x23



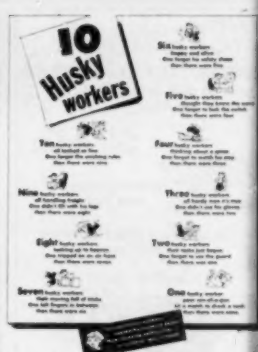
NATIONAL SAFETY COUNCIL

8287-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

7719-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

9159-B 17x23

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL

7893-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

7630-A 8 1/2x11 1/2



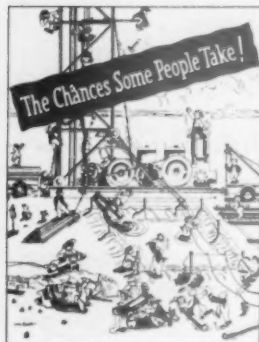
NATIONAL SAFETY COUNCIL

9106-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL

8808-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9146-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9254-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
9272-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8355-B 17x23

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS



NATIONAL SAFETY COUNCIL
8077-B 17x23



NATIONAL SAFETY COUNCIL
8444-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
7966-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8210-A 8 1/2x11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION



NATIONAL SAFETY COUNCIL
7571-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL
8874-A 8 1/2x11 1/2



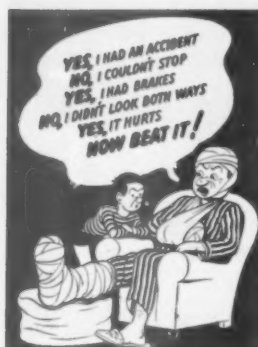
NATIONAL SAFETY COUNCIL
8814-A 8 1/2x11 1/2



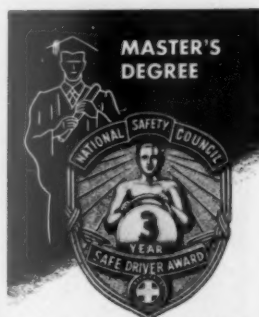
NATIONAL SAFETY COUNCIL
7946-A 8 1/2x11 1/2

MOTOR TRANSPORTATION—trucks, buses, taxicabs

See also: p. 40; p. 8—8872-A; p. 9—9415-A; p. 19—8369-A; p. 20—8821-A; p. 27—8919-A, 9280-A; p. 31—V-6643-A; p. 44—9226-A; p. 49—9005-A; 9357-A; p. 60—8445-B, 9282-B.



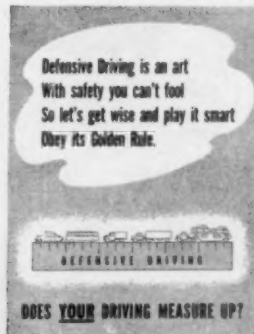
NATIONAL SAFETY COUNCIL POSTER NO. 1
V-9259-B 17x23



MASTER'S DEGREE
in the Art and Science of Safe Driving
NATIONAL SAFETY COUNCIL POSTER NO. 1
V-9296-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL POSTER NO. 1
V-9338-A 8 1/2x11 1/2



DOES YOUR DRIVING MEASURE UP?
NATIONAL SAFETY COUNCIL POSTER NO. 1
V-9239-A 8 1/2x11 1/2

POSTERS MINIATURED HERE ARE PRINTED IN TWO OR MORE COLORS



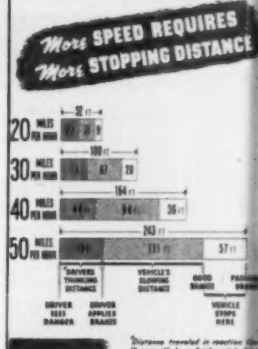
NATIONAL SAFETY COUNCIL POSTER NO. 1
V-9191-A 8 1/2x11 1/2



NATIONAL SAFETY COUNCIL POSTER NO. 1
V-8692-B 17x23



NATIONAL SAFETY COUNCIL POSTER NO. 1
V-8404-B 17x23

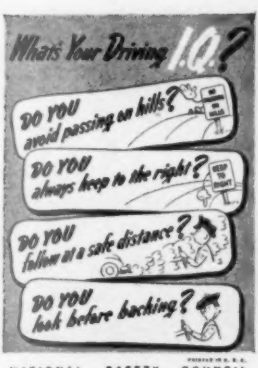


NATIONAL SAFETY COUNCIL POSTER NO. 1
V-8058-B 17x23

WATCH FOR NEW POSTERS MONTHLY IN NATIONAL SAFETY NEWS



NATIONAL SAFETY COUNCIL POSTER NO. 1
V-9335-B 17x23



NATIONAL SAFETY COUNCIL POSTER NO. 1
V-8844-B 17x23



NATIONAL SAFETY COUNCIL POSTER NO. 1
V-9413-B 17x23



NATIONAL SAFETY COUNCIL POSTER NO. 1
V-8824-B 17x23



Blind corners can fool you too—
Drive with **EXTRA** care

NATIONAL SAFETY COUNCIL

V-8674-B

17x23

SAFE DRIVING
demands
CLEAR VISION



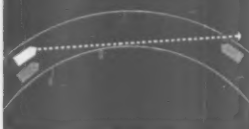
KEEP WINDSHIELDS CLEAN!

NATIONAL SAFETY COUNCIL

V-9206-A

8 1/2 x 11 1/2

what you ^{see}
don't know
CAN
hurt you

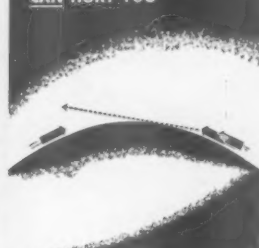


NATIONAL SAFETY COUNCIL

V-9393-A

8 1/2 x 11 1/2

WHAT YOU DON'T KNOW ^{see}
CAN HURT YOU



NATIONAL SAFETY COUNCIL

V-9439-A

8 1/2 x 11 1/2

POSTERS ARE AVAILABLE ONLY IN SIZES SHOWN BELOW CUTS

what you ^{see}
don't know
CAN
hurt you



NATIONAL SAFETY COUNCIL

V-9463-A

8 1/2 x 11 1/2

DEFENSIVE DRIVING TIPS
When passing a bus
stopped in a loading zone
at an intersection—
reduce speed and watch for—



the "JACK IN THE BOX" pedestrian

NATIONAL SAFETY COUNCIL

V-9329-A

8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL

V-8862-B

17x23



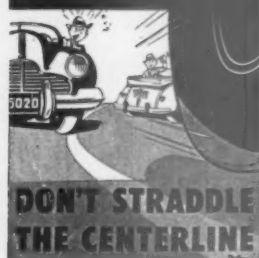
NATIONAL SAFETY COUNCIL

V-8221-A

8 1/2 x 11 1/2

SEE ALSO THE MULTI-COLORED POSTERS IN CENTER SECTION

STAY RIGHT!



NATIONAL SAFETY COUNCIL

V-8454-B

17x23

To the boss he made the claim
"I really couldn't miss it."
But delayed braking was to blame
if he had been explicit.



NATIONAL SAFETY COUNCIL

V-8694-A

8 1/2 x 11 1/2

**TEAMWORK PREVENTS
BACKING ACCIDENTS**



NATIONAL SAFETY COUNCIL

V-8653-A

8 1/2 x 11 1/2

REALLY CHECK 'EM
BEFORE YOU ROLL 'EM
DON'T JUST LOOK AT 'EM



NATIONAL SAFETY COUNCIL

V-7545-A

8 1/2 x 11 1/2

continuing—MOTOR TRANSPORTATION



NATIONAL SAFETY COUNCIL
V-7500-B 17x23



NATIONAL SAFETY COUNCIL
V-8802-A 8 1/2 x 11 1/2



NATIONAL SAFETY COUNCIL
V-7790-B 17x23

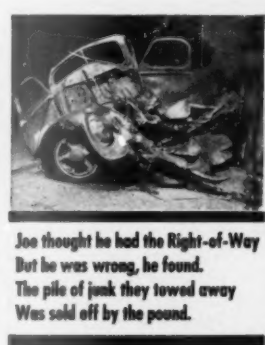


NATIONAL SAFETY COUNCIL
V-9441-B 17x23

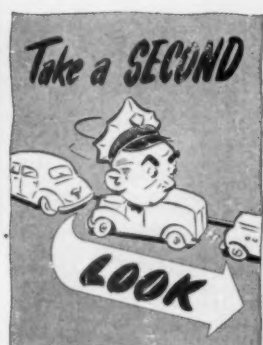
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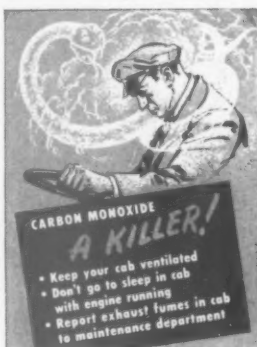
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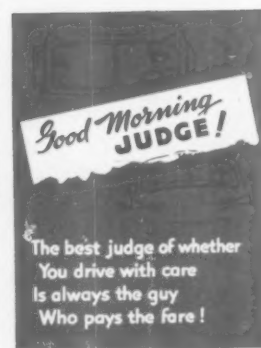
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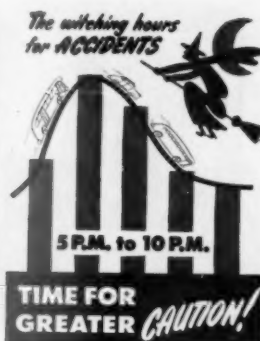
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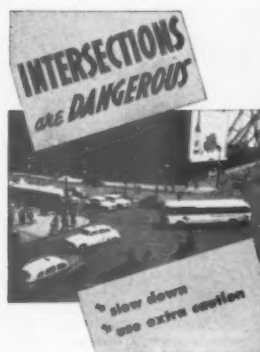


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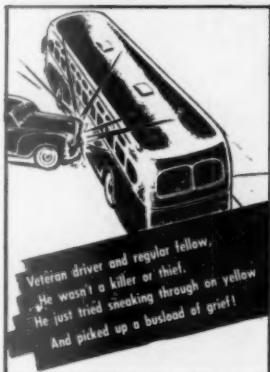


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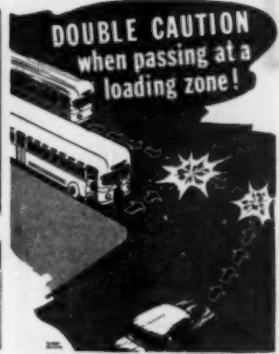
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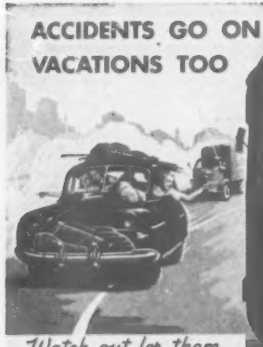
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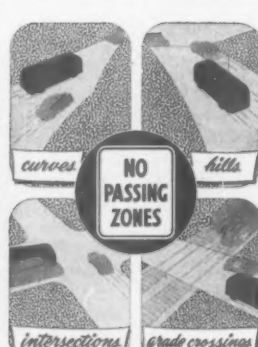
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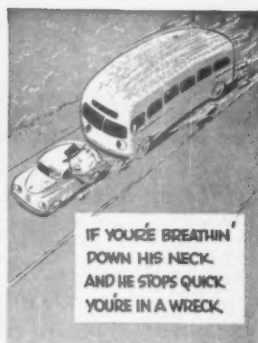
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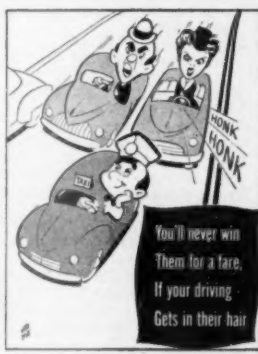
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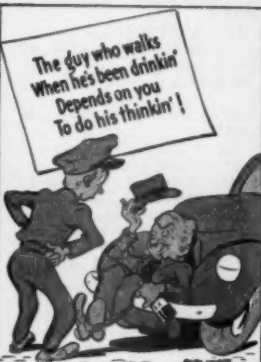
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JUMBO POSTERS

the BIGGEST Thing in Safety . . .

. . . that's what JUMBO POSTERS are. If you've seen these giant-sized billboard displays, you'll understand why. They're so BIG they can't be missed. They're so colorful they magnetize attention. And they pack such a powerful safety punch, they're remembered a long, long time.

Jumbo posters also pack plenty of public relations value. They tell the public in no uncertain terms that your company is vitally concerned with the safety and welfare of your workers.

These eye-catching displays measure 11 feet 8 inches wide by 9 feet 11 inches high and come in eight sections for easy mounting. The three-color illustrations feature safety messages of a general nature which are appropriate for all phases of operations and all types of readers.

The National Safety Council produces 12 different Jumbo posters each year. They are available on an annual subscription basis, a poster being delivered each month in time for posting on the first of the following month. Only the current month's poster can be shipped; back issues are not stocked. See page 2 for prices.

"C" SIZE POSTERS

The latest addition to the Council's poster service is the "C" poster (25"x38"). One of these large indoor posters is produced each month. They are printed in two colors, and carry general safety messages applicable to any worker audience.

The following month's poster is illustrated in the poster section of the NATIONAL SAFETY NEWS. "C" posters may be purchased from month to month or by annual subscription. See page 2 for prices.

POSTER ELECTROS

You may obtain electrotypes of any poster illustrated in black and white in this directory or in the poster section of NATIONAL SAFETY NEWS. (Electrotypes of 3 and 4 color posters are not available.) Electrotypes are approximately 1 $\frac{1}{8}$ " x 2 $\frac{3}{4}$ ", suitable for use in plant publications and leaflets. Order by poster number.

Member Prices:

1 to 99 electros, \$3.45 each; 100 or more, \$3.15. (Non-member prices are double member prices.)

POSTER FRAMES

These are black enameled metal frames, made to fit National Safety Council posters. They are especially useful when display boards are not available, or when you wish to spot a single poster at a strategic point. Frames are large enough to accommodate cardboard backing and also a glass or plastic sheet in front of the poster.

Member Prices:

"A" size (8 $\frac{1}{2}$ " x 11 $\frac{1}{2}$ ") 1 to 9 frames, \$1.15 each; 10 to 99, \$1.00; 100 or more, 90c.

"B" size (17" x 23") 1 to 9 frames, \$1.70 each; 10 to 99, \$1.40; 100 or more, \$1.15.

(Non-member prices are double member prices.)

PAYROLL ENCLOSURES

Miniature black and white reproductions of safety posters may be ordered for use as inserts in pay envelopes. You select 12 different posters from those shown in black and white in this directory or in NATIONAL SAFETY NEWS. (Do not select posters shown in color.)

The enclosures are printed 12 to a sheet and then cut to 1 $\frac{1}{4}$ " x 2 $\frac{1}{2}$ " size. Minimum order of 1200 enclosures (100 sheets) is required. Quantities of each of the miniatures selected must be identical. Order by poster number, and allow approximately three weeks for shipment.

NOTE: Payroll enclosures cannot be shipped between November 1 and December 31, so please plan your ordering accordingly.

Member Prices:

First 100 sheets, \$11.50; each additional 100 sheets, \$1.95. (Non-member prices are double member prices.)

**Suit the action to the word,
the word to the action.**

—proverb

POSTERS

by
NATIONAL SAFETY COUNCIL
425 North Michigan Avenue
Chicago 11, Illinois